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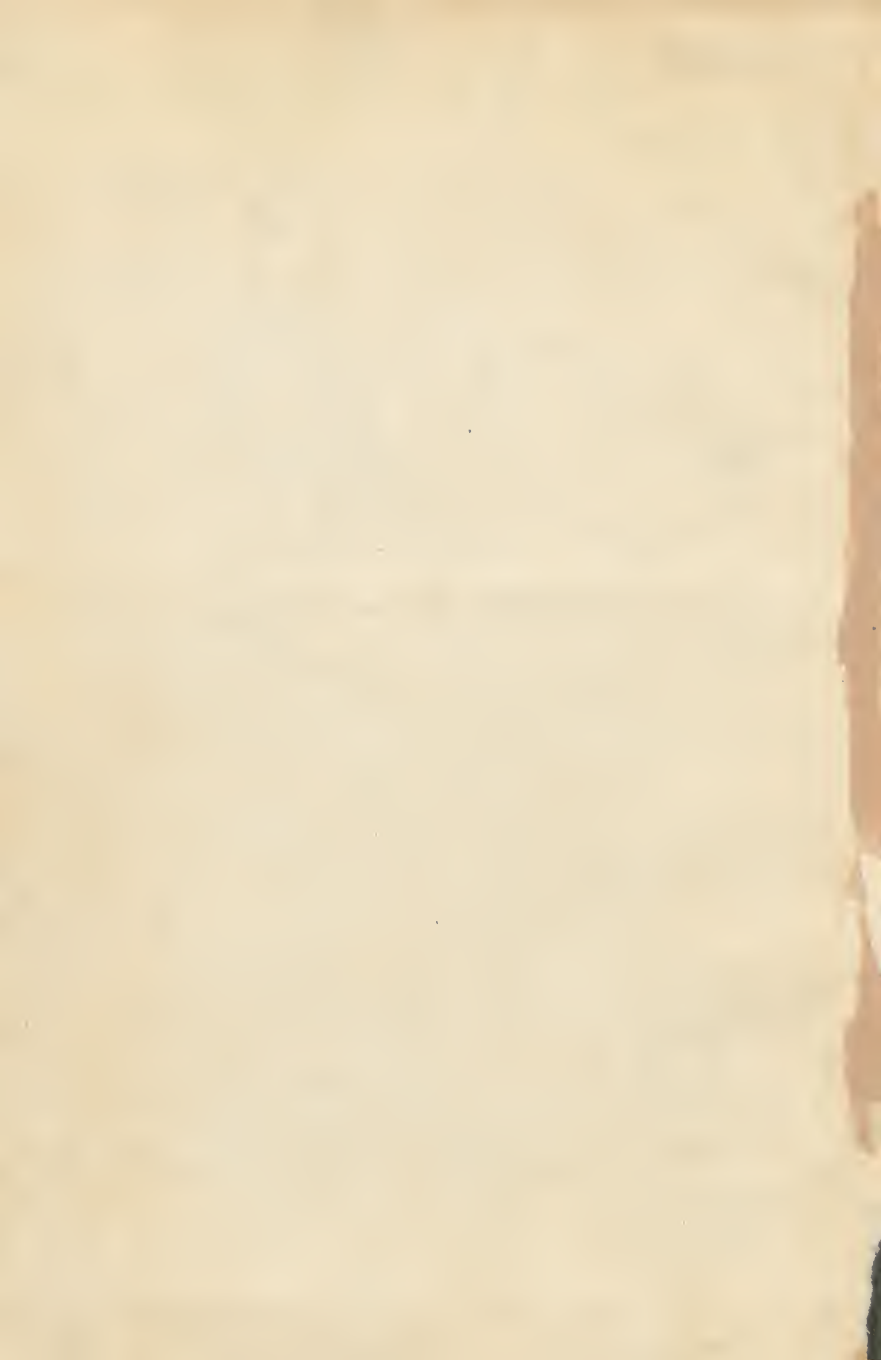


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A COMPENDIUM
OF
MODERN PHARMACY
AND
DRUGGISTS' FORMULARY,

CONTAINING THE

BEST METHODS FOR MANUFACTURING AND PREPARING

ELIXIRS, WORM PREPARATIONS, TOILET ARTICLES, SYRUPS, TINC-
TURES, WINES, OINTMENTS AND LINIMENTS, STRENGTHENERS, ADEPS,
HOSPITAL PRACTICE, INCOMPATIBLES, CHEMICAL NOMEN-
CLATURE NOTES ON PHARMACY, PATENT MEDICINES,
ANTHELMINTIC OF PHARMACY, LAW DEPARTMENT,
PHARMACEUTICAL NOTES, AROMATIC VINEGARS,
ESSENCES, POWDERS, MEDICATED WATER
DECOCTIONS, CERATES, COLLOIDIA, HINTS
ON DISPENSING, MIXTURES, NEW
RECIPIES, AND MISCELLANE-
OUS INFORMATION INDIS-
PENSABLE TO THE
PHARMACEUTIST

VOLUME II.

SPRINGFIELD, ILL.:
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PREFACE.

The very general and unusual favor with which American druggists have received KILNER'S MODERN PHARMACY, has prompted the compiler and publisher to incorporate the Supplements hitherto published from time to time, and, with additional new matter, form a second volume, which is here presented to the public.

A prominent feature in the work is the chapter on New Remedies, which cannot fail to be of great service to the reader. The chapter on Patent Medicines will be found quite complete, and well worthy of attention.

In the new compilation of this formulary, we have availed ourselves of the best journals of America and Europe, and especially *The Western Druggist*, *The New Idea*, *The Medical World*, *London Chemist and Druggist*, *Paris Codex*, *Piessé's Art of Perfumery*, *Scientific American*, *British Pharmacopœia*, et.

PREFACE.

This has necessarily involved considerable work, but to this the public was entitled from the very encouraging patronage received since the first edition of KILNER'S MODERN PHARMACY was published.

In presenting this second volume, the compiler expresses a hope that the mass of matter here brought together will meet the approbation of the public, inasmuch as it presents, as a distinguishing feature, a condensed digest of practical pharmacy gathered from sources of undoubted authority.

A carefully prepared index is appended, which will enable the reader to find readily the desired information.

Respectfully,

THE AUTHOR.

KILNER'S MODERN PHARMACY

CHAPTER I.

PHARMACEUTICAL NOTES.

PART I.

Dispensing.

That portion of the drug store where prescriptions are dispensed should be, and generally is, the particular pride. Whether prescriptions be few or many it always pays well to devote the most careful attention to this department. It is the department by which a druggist is tested and judged. If he is slovenly or ignorant therein he can have but little chance of reputation elsewhere, unless he choose to aim at the somewhat doubtful glory of counter doctoring or quack medicine mongering.

The dispensing department should be situated in the part of the store most remote from the span set apart for customers. Its extent will, of course be regulated by the requirements of the business, but whether small or large it should be so fixed that the dispenser will be able to carry on his work with ease and comfort.

In dispensing, always use DISTILLED WATER, since the impurities of well water gives a very different

appearace to some mixtures. Tincture of Lavender Comp., for instance, gives a bright, pleasant looking mixture with distilled, but a muddy one with well water. Tinct. Card. Comp. produces with distilled a reddish-brown color, but with well water a brilliant crimson, as though Ammonia had been added.

Artificial Waters.

If obliged to make artificial waters never rub Ess. Oil with Magnesia, as from its slight solubility in water the Magnesia might precipitate Alkaloids or Phosphates from a mixture. It may be detected by rubbing a small portion of Calomel in a mortar with the suspected water; if Magnesia be present the Calomel is partly converted into black Oxide. The best way is to rub the Oil with a little powdered Pumice Stone or Kaolin.

Licorice Juice.

Hager says: "When Licorice Juice is to be combined with Quinine, the former should be first dissolved in ten times its weight of water, and the solution of Quinine added, as both the Alkaloids and the Acid usually used tend to decompose the Licorice. If the vehicle does not admit of this solution, the Quinine, with a little Hydrochloric Acid must be rubbed down in a mortar with the Licorice, and the vehicle added little by little."

Iodine

Only slightly dissolves in water, but Iodide of Potassium would make three-quarters of its own weight soluble. Ammonia Salts also increases its

solubility. If neither of these are in the mixture, the Iodine should be rubbed down in twice its weight of Sugar, which helps to suspend it. Oils of Peppermint and Fennel, and some other volatile oils, combine chemically with Iodine.

Sugar

Dissolves easily in water but does not immediately yield a clear solution. In its place Simple Syrup in the proper proportion may be used.—HAGER.

Manna

Can be dissolved in water by the aid of heat. It should be cleared by decantation and straining.

Gum Arabic

Is best used in the form of Mucilage in the proper proportion. Care should be taken not to employ Gum Senegal in its place as the latter has an unpleasant taste and smells and acts chemically with the Metallic Salts. Care should be taken that the Mucilage is fresh. It quickly sours, and we have seen curious and often puzzling complications from this cause.

Tannic Acid

Will easily dissolve in pure water, yielding a solution with a light yellow shade. The water must be quite free from Ammonia, or the solution gradually darkens to a brownish tint. With traces of iron, it turns inky, and Alkaline substances also turn it black.

Nitrate of Silver

In solution should be sent out in dark glass bottles. It must always be dissolved in distilled water. Amber-tinted or uraneum glass bottles prevent the actinic action of light on the solution, and being more transparent, they enable the patient to see what he has in the bottle more clearly.

Solutions of Scale Preparations.

In making solutions of salts it will be mentioned that it is better not to dissolve them in the bottle. The "Scale" preparations are an exception to this. They can, with care, be readily and easily dissolved in the bottle in which they are to be dispensed. A little of the water or aqueous vehicle should be put into the bottle first, being careful not to wet its neck, or, should this be done, it should be dried with a cloth, else the Scale preparation will adhere to this moisture and block the admission of the salt into the bottle. A solution is readily formed if the salt falls upon the water and is quickly agitated.

Pill Excipient.

Where no excipient is ordered, the simplest should be selected, and that which gives least increase to the size of the pill.

Generally speaking, the dispenser will have one excipient that he prefers, and which he therefore uses in the majority of cases. It may not be the best in every case, but because he is in the habit of using it and knows well its massing powers, he can pro-

duce better results with it than any other. Citrate of Iron and Quinine, for example, may be made into a good working mass and keeping pill with almost any excipient not having glycerine for its basis, but if he tries to make a mass with any excipient other than that which he is in the habit of using, the chances are that in one respect or another, the attempt will end, at least in the first instance, in failure. It is necessary to point this out, as in no case would we consider the excipient the best unless this element of familiarity in their use was taken into consideration.

WHERE FLUIDS ARE TO BE USED IN FORMING PILL MASS.—Where fluids are required to be added, it will always be found risky to add them direct to the mass. A good plan is to drop the fluid first on the point of the spatula, and from it to the mortar in quantity necessary to form a mass.—Chemist and Druggist.

Pill masses containing dry vegetable powders require some few minutes to absorb the added water, and, therefore, should be made a little too soft, and allowed to stand from ten to fifteen minutes before rolling, or they are liable to crumble.—Hager.

If the exact quantity of water required for massing is known, the pills may be made smaller in size and in less time by adding the required quantity at once and rapidly mixing and cutting before the absorption has caused too much firmness. The addition of the excipient, little by little, generally adds much to the labor and not infrequently much, also, to the size of the pill.

PART II.

PHARMACEUTICAL NOTES.

Benzoic Acid.

This acid is now produced artificially from so many sources and so cheaply that it is not very liable to be impure or of bad quality. Even that made from the hippuric acid of the urine of animals is now generally pure, and rarely has even the slightest urinous odor which formerly served to distinguish it. Indeed there is only one single variety in the market now that can be easily distinguished, and fortunately that is the variety which should alone be used in medicine. Certain makers, chiefly English, continue to supply a very nice benzoic acid made from benzoin, and this is technically known in the market as benzoic acid from benzoni. It can always be had in any quantity and at a moderate price, and is easily distinguished by its peculiar light fluffy condition, and by the distinct odor of benzoin. From the presence of very small proportions of aromatic substances, this acid does not stand the rigid chemical tests of the pharmacopœia as well as the artificial products, and of these none stands the tests better, if as well, as the acid from urine and it is the lowest in price. Nevertheless, the acid from benzoin is the nicest for the purposes of

medicine and pharmacy, and it is that variety upon which the medical reputation and character of the substance is based. Formerly the price was 40 to 45 cents per ounce, but since now it can be had for about 25 to 30 cents there is no reasonable excuse for using any other variety.

It has been alleged that some manufacturers sublime the artificial cheaper acids with this, that they may get the odor and appearance, and that others mix it mechanically with that from urine with the same object of obtaining the highest price for the cheaper variety, but the writer has seen no samples of this sophistication, and there are several makers who are above this suspicion, and whose factories furnish an abundant supply easily obtained in their original packages.

Recently this acid has attained some reputation as an Antiseptic, and it seems probable that it is nearly if not quite equal to salicylic acid for such uses as the preservation by hyperdermic solutions.
—Dr. Squibbs, *Ephemerist*.

Anæsthetics from a Medico-Legal Point of View.

Charges made by females under the influence of chloroform or other anæsthetic should be received as the testimony of an insane person is. It cannot be rejected, but the *corpus delicti aliunde* rule should be insisted on. Dentists or Surgeons who do not protect themselves by having a third party present do not merit much sympathy.

Death from administration of chloroform, after a felonious assault, unless the wounding were an un-

mistakably fatal one, reduces the crime of the prisoner from murder to a felonious assault.

The surgeon has no right to use chloroform to detect crime against the will of the prisoner.

The medical expert, notwithstanding he is sent by order of court, has no right to administer an anæsthetic against the wish of the plaintiff, in a personal damage suit to detect fraud.

Gross violence of the well-known rules of administering anæsthetics, life being lost thereby, will subject the violator to a trial on a charge of manslaughter. A surgeon allowing an untrained medical student to administer chloroform, life being lost thereby, will subject the surgeon himself to a suit for damages. What he does through his agent he does himself.

The physician who administers an anæsthetic should attend to that and nothing else. He should have examined the heart and lungs beforehand. He should have the patient in the reclining position with his clothes loose so as not to interfere with respiration. Should have his rat tooth forceps, nitrate of amyl. and ammonia, and know their use and when to use them, and how to perform artificial respiration.

Chloroform can not be administered by a person who is not an expert to a person who is asleep, without awaking him. Experts themselves, with the utmost care, fail more often in chloroforming adults in their sleep than they succeed.

Responsibility of Pharmacists.

On October 26, 1880, Mrs. Mary Ringwald went into a drug store kept by Henry Diedel, at No. 375 Third Avenue, New York, and handed the clerk a prescription from Dr. Edward Vanderpoel, 36 West Twenty-seventh street. The prescription was for a large quantity of laudanum, and at its foot was the following request written by the physician to the druggist: Please give to bearer 60 drops in the store. The clerk summoned Mr. Diedel who said that twenty-five drops was a maximum dose of laudanum, and that he would not give 60 drops to be taken in the store in a single dose, unless the physician would come and assume the responsibility. The woman insisted that she was ill and needed the laudanum, whereupon Mr. Diedel finally poured out ten drops for her, which she swallowed in his presence. One year later Mr. Diedel was served with complaints in two suits for damages, one by Mrs. Mary Ringwald for \$10,000 and one by her husband for \$5,000. The complainants described the trouble for which the prescription was given, and alleged that the amount named would have been effectual, but that the ten drops administered by the druggist were just sufficient to cause the trouble which it was intended to avoid.

The case came to trial on Wednesday, June 14, in the court of common pleas before Miles Beach, and was continued Thursday. The prosecution claimed that the druggist was liable for damages because of his failure to administer the prescription himself as directed, and that according to law any

druggist was obliged to administer poison in any amount on a physician's prescription, relying on the explanation of the physician for his defense.

The defense took the ground that a druggist is obliged to fill a physician's prescription, but that he is not obliged to administer the medicine himself in his place of business at the risk of seeing the patient fall dead in his presence.

Judge Beach ruled that a druggist in the City of New York is not obliged to administer medicine in his store, and that if a physician intentionally or by mistake, writes a prescription for a dangerous amount of poison, and the druggist administers the poison with the knowledge that it is dangerous, he is personally responsible for the consequences, if the patient dies, and cannot shift them to the physician.

The prosecution then attempted to hold the druggist responsible for the ten drops of laudanum which he administered.

Several witnesses for the prosecution testified that in their opinion the woman's illness was caused by the ten drops administered by the druggist, which they said would be sufficient to produce great exhilaration.

Drs. Hodgman, Burke, Warner, Schetter, Prof. Hawks, and three others, testified that in their opinion the ten drops had no connection with the woman's illness.

The defendant was placed upon the stand by his counsel, and ten drops of laudanum, procured from

a neighboring drug store, were administered to him.

The prosecution were then invited to cross examine him. No evil effects of laudanum appeared. After a consideration of three minutes, the jury returned a verdict for the defendant.

Size of Liquid Drops.

It has been found that the size of drops bears a fixed relation to the chemical composition of the liquid. All liquids, at a temperature near their liquifying point, have specific cohesions, which are proportionate to the number 1, 2, 3, 4, &c. Taking the specific cohesion of the metallic bromides and iodides as, 1, that of mercury, the nitrates, the metallic chlorides, the sugars and the fats will be 2; that of water, the carbonates, the sulphates, will be 4. In the case of the metals the specific cohesion of lead, bismuth and antimony is 2, that of platinum, gold, silver, cadmium, tin and copper is 4; that of zinc, iron and palladium, 6; that of sodium, 12.

Dangerous Burning Fluids.

There is no fluid, says a recent writer, used for furnishing light that will "*explode*." The Naphthas sold by dealers and travellers through the country under a variety of names, "*oils*," "*fluids*," gasolines, etc., etc., will not explode like gunpowder, gun-cotton, nitro-glycerine, etc. It must be distinctly understood that it is *only the vapor which rises from the surface of the liquid mixed with air that*

suddenly explodes. A lamp or can holding these dangerous volatile fluids *cannot explode if it is full or nearly so*, as there must be a space above the fluid filled with the vapor mixed with air in order that any detonation may occur.

Some men vend naptha, coal oil, etc., under assumed names, and deceive purchasers by setting the fluid on fire and by turning it out and handling it in a way which seems very dangerous to uninformed bystanders. They say to their victims, see, this oil will not explode, I put flame into the lamp, into the can, turn it out upon the floor, burn it under all possible conditions, and it don't explode. Can anything be safer than this? This kind of experimenting is, unfortunately, deemed satisfactory by many, and they readily introduce the deadly combustible into their families.

Three-fourths of all the lamp explosions reported are not explosions, they are horrible burnings from the simple ignition of the fluid by the spilling of the same upon the clothing, or by the breaking or upsetting of lamps. These naptha fluids are not so dangerous from the liability of the vapor to explode, as from the inflammability of the liquids themselves.

The loss of life, the loss to insurance companies from the burning of buildings, is owing to the stuff that is burnt, and not from explosions. It is not very easy to get into a can just the right mixture of air and vapor. Equal parts of air and vapor will not explode. Three parts of air and one of vapor will give a vigorous puff when ignited in a vessel. Five parts of air and one of vapor give a

smart report, but to attain the highest amount of force, about eight or nine parts of air to one of vapor are required.

We should know that any liquid that will burn readily at ordinary temper is *unsafe*. *Nothing can be added to gasoline or naphtha which will render it safe, or the vapor unexplosive*. The traveling quacks do not add anything to their liquids but cheap, insoluble substances, and this they do to keep up the deception.

The dangerous volatile liquids can not be carbonized, ozonized or oxygenized, and to claim to do that is low, vulgar quackery.

Let the quack turn a little of the fluid into a cup or saucer. If it takes fire when touched with a match it certainly will afford explosive vapors, and is a dangerous agent.

The writer counted more than two thousand persons killed or burned in one year in the United States from the use of these so-called unexplosive fluids sold to confiding persons by villainous scoundrels.

Cod Liver Oil.

The Cod-oil is procured from the *Gadus Morrhua*. Monrad Krohn has written at great length on the substance in the *Pharm. Zeitung* from which we take the following:

The Cod fish appears at Bergen and farther north in the months of January and February, and is caught in quantities of six to eight millions or more. A little later in the year, in March, the cod-

fish appears at Lofoden, where sometimes upwards of twenty-four millions are caught; later the fish goes farther north to Finland, where the catch is quite as large as at Lofoden. The number of fishermen who congregate at Lofoden is about sixteen thousand.

As soon as possible the fishes are brought on shore, and sold to the tradesmen, manufacturers, etc., or, what now happens very seldom, the oil is extracted by the fishermen themselves.

There are five kinds of Cod-liver Oil.

1. That extracted by steam, the White Oil.
2. The ordinary medicinal oil of a light yellow color.
3. Oil of a darker yellow color.
4. The brown medicinal oil.
5. The dark brown, or tanners' and curriers' oil.

STEAM OIL.

For this the livers are subjected, as soon as possible, to the action of steam heat in pans, pressed and transferred to closed lead cisterns, where the oil is left to deposit stearine and impurities. After one or two months, the clarified oil is bottled. Of course the higher the temperature at which it is bottled, the more it is liable to deposit stearine at a lower temperature, and hence the oil merchants draw off the oil at as low a temperature as possible. This is the way that P. Moeller makes his oil; and so it is prepared by numerous others. It is of very little consequence who bottles it. It is the same quality of oil, prejudice to the contrary not-

withstanding. It is the peculiar nature of things on the coast of Norway, that now one, now the other, of the oil dealers gets the first and freshest livers. The light yellow medicinal oil is prepared by the old process—the livers being allowed to remain in large heaps at ordinary temperature, till the oil runs out by itself. It is evident that through this long exposure to the air the oil gets somewhat rancid and of course stronger in taste and smell than the steam oil. Here as elsewhere the chief difference is due to the more or less cleanliness observed. Livers kept in new oaken vats, the oil being drawn off frequently, will always yield milder oil than when treated in old rancid casks, especially if the product is kept in old tar or parafine barrels. The truth is, that the oil dealers do not pay a single cent more to the oil pressers for carefully made oil, than for the ordinary article, hence there is but little inducement for taking extra care and trouble. Three million pounds of oil is consumed yearly.

The third and fourth quality, darker yellow and brown medicinal oils, are prepared by pressing the livers and applying a little heat. Dr. DeYongh's oil is of the fourth quality, a brown oil. He treats it very carefully and bottles it perfectly clear, and of course charges a high price.

The fifth quality, curriers' oil, is obtained by letting the livers ferment and heat, and then submitting them to strong pressure. Contrary to the generally received opinion in Norway itself, very little, if any, adulteration takes place. Very few other oils

are to be had there to use as adulterants, and what might be employed for the purpose can only be procured in very small quantities, so that adulteration is not profitable there.

The only oil which is often sold for Cod-liver Oil is the oil the liver *Scymnus Borealis*. One single fish yields from one to three hundred pounds of oil. Of late years this oil, which contains very little stearine, is very light in color, and is cheaper than Cod-liver Oil, has found ready sale. It is said to be very difficult of digestion.

Chloroforming During Sleep.

As this subject has been the topic of conversation among the medical fraternity, it may be interesting to read the following from the *Medical Advance*:

The possibility of chloroforming a person in sleep, without waking him, having been disputed in a recent murder trial, Dr. J. V. Quimby, of Jersey City, was led to test the question experimentally. The results were presented in a paper before the section of Medical Jurisprudence at the meeting of the American Medical Association, a short time ago.

Dr. Quimby made arrangements with a gentleman to enter his room when he was asleep, and apply chloroform to him. This he did with entire success, transferring the person from natural to artificial sleep without arousing him. He used about three drachms of Squibbs chloroform, and occupied about seven minutes in the operation.

The second case was a boy of 13 years, who refused to take ether for a minor operation. The

boy fell asleep, and the doctor took advantage of the circumstance and administered chloroform and performed the operation without awakening the boy.

Next a boy of 10 years, suffering from an abscess, was chloroformed while asleep, and the abscess opened with equal success.

To Make a Weather-Glass.

Take a thin glass tube, 12 inches long and $\frac{3}{4}$ -inch in diameter, and fill three-fourths of it with the following solution:—

Camphor	3 ij
Nitre	3 iss
Sal Ammoniac	3 j
Proof Spirit.....	3 ij $\frac{1}{4}$.

Solve. The tube may be tied over with bladder if required.

As a sign of *fine* weather, the sediment of white flakes will settle near to the bottom of the tube, while the liquid will be quite transparent above. As a sign of *rain*, the matter will rise to the surface of the solution. At the approach of a *storm*, the matter will float on the surface of the solution in the form of white flakes, and the fluid will appear in a state of fermentation. During *frost*, the solution will present a starry appearance, and during *summer* or *hot weather* the matter will fall to the bottom as a solid substance. Several other predictions might be given, but these glasses as a rule are **not** to be depended upon.

Solvent Powers of Glycerine.

The solubility of various chemicals in 100 parts of glycerine:

Acid arseniosum.....	20
“ arsenicum.....	20
“ benzoicum.....	10
“ boracicum.....	10
“ oxalicum.....	15
“ tannicum.....	50
Alumen.....	40
Ammon. carb.....	20
“ murias.....	20
Antimonii et potass. tart.....	5.50
Atropia.....	3
Atrop. sulph.....	33
Barii chlorid.....	10
Brucia.....	2.25
Calcii sulphid.....	5
Cinchonia.....	0.50
Cinch. sulph.....	6.70
Cupri acetas.....	10
“ sulph.....	30
Ferri et potass. tart.....	8
“ lactas.....	16
“ sulphas.....	25
Hydrarg. chlor. corr.....	7.50
“ cyanid.....	27
Iodinium.....	1.90
Morphia.....	0.45
Morph. acetas.....	20
“ murias.....	20
Phosphorus.....	0.20

Plumbi acetat.....	20
Potassæ arsenias.....	50
“ chloras.....	3.50
Potassii bromid.....	25
“ cyanid.....	32
“ iodid.....	40
Quinia.....	0.50
Quiniæ tannas.....	0.25
Sodæ arsenias.....	50
“ bicarbon.....	8
“ boras.....	60
“ carbonas.....	98
“ chloras.....	20
Sulphur.....	0.10
Strychnia.....	0.25
Strychn. nitras.....	4
“ sulphas.....	22.50
Urea.....	50
Veratria.....	1
Zinci chlorid.....	50
“ iodid.....	40
“ sulphas.....	35

Borax.

It may not be generally known how very valuable borax is in various purposes of household use. We find it the very best cockroach exterminator yet discovered. One-half pound, costing but fifty cents, has completely cleared a large house formerly swarming with them, so that the appearance of one in a month is quite a novelty. The various exterminating powders puffed and advertised have been

found not fully effective, tending rather to make the roaches crazy than to kill them. There is something peculiar either in the smell or touch of borax which is certain death to them. They will flee in terror from it, and never appear again where it has once been placed. It is also a great advantage that borax is perfectly harmless to human beings; hence no danger from poisoning. It is also valuable for laundry purposes. The washerwomen of Holland and Belgium, so proverbially clean, and get their linen so beautifully white, used refined borax as washing powder instead of soda, in the proportion of a large handful of borax powder to ten gallons of water. They save soap nearly one-half. All the large washing establishments adopt the same mode. For laces, cambrics, etc., an extra quantity of the powder is used; and for crinolines (requiring to be made stiff), a stronger solution is necessary. Borax, being a neutral salt, does not in the slightest degree injure the texture of linen. Its effect is to soften the hardest water, and, therefore, it should be kept on the toilet table. As a way of cleaning the hair, nothing is better than a solution of borax in water.—*Manufacturer and Builder.*

PART III.

PHARMACEUTICAL NOTES.

Quinine.

Alcohol is not necessary for making quinine. It is said that manufacturers in this country obtain quinine by a method known as the *dry process*, which consists in extracting the alkaloids by means of fusel oil. The powdered bark is mixed thoroughly with milk of lime, and, when dry, exhausted with fusel oil, which dissolves out all the alkaloids. On treating the solution with diluted sulphuric acid, the alkaloidal sulphates being insoluble in fusel oil, are transferred to the watery menstruum, and afterwards separated by various means. At no stage of the proceeding is alcohol needed, or, we believe, employed.

Chewing Gum.

The white gum is said to be made from a variety of paraffine technically known as *chewing stock*, sweetened with a little glycerine, and sometimes flavored with sassafras or wintergreen. The brown, or tolu chewing gum, is made with spruce gum melted with a little balsam tolu, and sufficient oil or paraffine to bring it to the proper consistence.

Nitrous Oxide Gas.

Pure nitrous oxide gas may be obtained by carefully heating nitrate of ammonium in a glass retort until it melts at about 329° Fah., and then slowly raising the heat to 365° Fah., when the salt is decomposed into nitrous oxide gas (N_2O) and water. Pass the gas into a gallon bottle provided with an outlet tube connected with the gasometer. This bottle should be one-third full of a strong solution of ferrous sulphate (copperas), to which has been added an ounce of strong sulphuric acid. The tube connected with the retort should dip about an inch under the surface of this liquid. Make close joints with good corks and rubber tubing. The gas thus washed can be passed into the gasometer, and after standing a few hours is ready for use. D. C.

To Detect the Admission of one Essential Oil with Another.

The admixture of an inferior essential oil with another more costly, is readily detected by a connoisseur or expert, by placing a drop or two on a piece of clean blotting paper, shaking it in the air, and smelling it occasionally. The difference of odor at the beginning and towards the end of the evaporation, will show the adulteration, especially if the adulterant be oil of turpentine. This last may also be detected by remaining undissolved when the oil is agitated with above thrice its volume of strong rectified spirit. Highly rectified oil of turpentine is very largely used to adulterate the stronger scented

essential oils. Foreign oil of lavender and oil of peppermint, for example, are usually compounds of 1 ounce of genuine oil with 9 ounces of the turpentine. Even American and English oil of peppermint is adulterated with one-third part rectified spirit, besides a considerable quantity of oil of spearmint, and often turpentine. The adulteration of a *Heavy Oil with a Light* one may be detected by agitating the suspected sample with water, when, in general, the two will separate and form *distinct layers*.

Antidote to Strychnia.

Druggists are not unfrequently required to furnish an antidote to strychnia poisoning in dogs. The remedy is Chloral Hydrate. About a drachm of the crystals, either in solution or otherwise, should be put in the animal's mouth, or poured down his throat. Sleep and recovery is the result.

A Simple Test for Butterine.

It is said an infallible test is to melt the butterine and then suddenly chill it, by surrounding it with cracked ice, when the lard goes to the bottom and the butter to the top, the line of separation being clearly visible. The makers of butterine in the country use all the way from 60 to 85 parts of lard to 40 and 15 parts of good butter.

Amykos.

This is the name given to a patent medicine recently placed upon the market. The bottles are neatly labeled and wrapped, the labels bearing Swedish literature, which, translated, claims the preparation to be a panacea, or, at least, a preventive, against contagious diseases. It is also a mouth wash and an antiseptic superior to any known. An analysis shows this preparation to be nothing more than peppermint water with a suggestion of nutmeg flavor, and about 20 grains of boracic acid to the fluid ounce. The latter ingredient represents the medicinal properties of the compound, which is one of the leading antiseptics. For much less cost than the usual price of such preparations, 320 grains of the acid, dissolved in a pint of water, could be made.—*Drug Bulletin.* _____

It is said that the disagreeable taste of cod-liver oil may be completely masked by adding a small quantity of the essence of Eucalyptus. One per cent. of the essence is quite sufficient for this purpose. It is probable that several other essentials might be used for the same purpose, but the Eucalyptus essence was preferred, probably on account of its beneficial therapeutic action in catarrh of the stomach, dyspepsia, and diseases of the respiratory organs.

To GET rid of the penetrating odor of *must* on the hands, place a small quantity of quinine on the palm of the hand, dissolve it with a few drops of slightly acidulated water, and rub the hands with it.

To Test Coal Oil.

Almost every large city has its coal oil inspector. Although it is well known that no oil is explosive in and of itself, it is only when the vapor arising therefrom becomes mixed in the proper proportions with air that it will explode.

Burning oil is often, however, adulterated with heavy oil or benzine. When heavy oil is the adulterant, its presence is shown by dimness of the flame after having burned some time, accompanied by a charring of the wick. The latter may be readily detected by means of a thermometer, a little warm water, and a tablespoonful of the oil. Fill the cup with warm water, the temperature of which is to be brought to 110° Fah. Pour the oil on the water; apply flame to the floating oil by match or otherwise. If the oil is unsafe it will take fire, and its use is dangerous, for it is liable to explode. But if the oil is safe and good, it will not take fire. All persons who sell kerosene that will not stand the fire test at 110°, are liable to prosecution.

Salicylate of Soda.

Every druggist may prepare this salt by saturating salicylic acid with bicarbonate of soda, care being taken that the product remains slightly acid, and crystalizing or evaporating to dryness. Seven ounces of acid require about four ounces of bicarbonate of soda, and produce very nearly eight ounces of dry salicylate of soda. D. C.

Solvents of Iodoform.

Iodoform will dissolve in the following solvents at ordinary temperatures:

- Petroleum benzine, 1 per cent.
- Coal benzine, 1.5 per cent.
- Oil of Turpentine, 4 per cent.
- Oil of Lavender, 7 per cent.
- Oil of Cloves, 8 per cent.
- Oil of Lemon, 9 per cent.
- Oil of Fennel, 9 per cent.
- Oil of Rosemary, 9 per cent.
- Oil of Cassia, 14 per cent.
- Oil of Caraway, 16 per cent.

Purification of Petrolatum.

A simple and expeditious method, but involving some little waste, consists in filtering the petrolatum while hot through *fine starch*. The latter itself must be white, pure, and carefully sifted, and the best kinds for this purpose are in the order named: 1st. Potato starch. 2d. Natal arrowroot. 3d. Wheaten starch. Barley, maize and rice starches will not do. Previous to use, the starch must be thoroughly dried, without being allowed to get discolored, and sifted quite free from lumps or foreign substances. The melted petrolatum is then treated with a sixth of its weight of fine starch, sifted in whilst warm, and stirred for ten or twelve minutes. Hot filtration through cotton or woolen cloth, completes the process, which is an easy one to manipulate, and is generally effective. The petrolatum, in

this way, can also be scented at the same time, if desired, by merely rubbing up some essential oil with a portion of the starch employed, or a little orris root may be employed.

A Hint About Charging Fountains.

A great many druggists entrust the charging of their soda fountains to ignorant or careless employés, and these very rarely understand the importance of doing this at a uniform pressure. They turn the charging-cock and let the full current of gas rush out of the generator so fast that the relaxed pressure allows the mixture to boil up, choking the pipes, invading the washer, and perhaps driving some of the sulphuric acid even the whole length of the charging pipe into the fountain. Sometimes the operator does not know the cause of this "*boiling up*," and never suspects that it is entirely his own fault. Such is the case, however, and the phenomenon, with all its train of vexatious effects, may be readily avoided by a little care. When the gauge makes the desired pressure, say 150 pounds, turn the cock gradually, and by increasing or diminishing the flow of gas, or adding more acid, keep the pressure between 140 and 160 pounds during the entire operation. As a general rule, whatever the original pressure, it should not vary more than twenty pounds from beginning to end. This necessarily requires more skill and care than the common, slipshod, haphazard method of charging, but it is repaid tenfold by the certain avoidance of clogged apparatus and of contaminated soda water.

To Distinguish Morphia from Quinine.

Morphia will turn blood red by the application of nitric acid.

An Easy Test for Arsenic.

Immerse the suspected paper in strong ammonia on a white plate; if the ammonia becomes *blue*, the presence of Salts of Copper is proved. Then drop a crystal of Nitrate of Silver in the blue liquid, and if arsenic be present, the crystal will become coated with yellow arsenate of silver, which will disappear on stirring.

EVERYBODY runs to the drug store to procure "something," when a tooth aches. For the next case, try the following: In the centre of a small piece of cotton place a grain or two of Chloral Hydrate, and insert this in the cavity of the tooth, and await result. Toothache often ceases immediately.

Syrup of Orange Peel.

If two fluid ounces of tincture of sweet orange peel, prepared in the same manner and of the same strength as the officinal tincture of bitter orange peel, are mixed with fourteen fluid ounces of simple syrup, a syrup is formed that is equally pleasant in taste and appearance to that made by the U. S. Pharmacopœia, containing about the same amount of alcohol, and free from the objection that may be made to that preparation on account of the presence of a small amount of magnesia, thereby rendering it incompatible with solutions containing alkaloid and metallic salts.

Bone Felon.

Of all the painful things, can there be any so excruciatingly painful as bone felon? We know of none that flesh is heir to. As this malady is quite frequent and the subject of much earnest consideration, we give the latest recipe for its cure, which is given by that high authority, the London *Lancet*:

“As soon as the disease is felt, put directly over the spot a fly blister, about the size of your thumb nail, and let it remain for six hours, at the expiration of which time, directly under the surface of the blister, may be seen the felon, which can be instantly taken out with the point of a needle or a lancet.”

To Spread Plasters.

In spreading plasters extemporaneously, writes Albert Ebert in the *Pharmacist*, convenience requires, and neatness demands, an uncoated marginal edge. This is usually secured by pasting strips of paper along the edges of the skin, and removing them after the spreading of the plaster is effected. It is just here that a practical difficulty frequently arises. The paper edges are liable, from drying of the paste, to adhere so strongly that either paper or skin will give way upon an attempt at their removal; the application of water will then be necessary to soften the attachment, and the final results may be expected to present a daubed and uncleanly aspect. This difficulty may be entirely avoided by applying to the paste brush a little glycerine before the adjustment of the marginal strips.

Glazing-Putty.

A new glazing-putty, known as "thermoplastic" putty, has been recently introduced in England, and applied to fasten glass into railway stations, green-houses, and other structures where iron sashes are employed. This article hardens in a few hours after being used; but, when exposed to solar heat sufficient to cause an expansion of the glass and metal, it becomes plastic, and, on cooling, again hardens to its original firmness, thus obviating the danger of breakage, which is so frequent when ordinary glazier's putty is employed.

Detection of Carbolic Acid in Oil of Cloves.

Hager (*Ph. Centr. Halle*, 1870, 281,) agitates the suspected oil with six to ten times its volume of benzine; pure oil of cloves yields a clear solution; carbolic acid, if present, renders the mixture turbid and separates. Equal volumes, however, of carbolic acid, oil of cloves, and benzine, yield a clear mixture.

Carbolic acid may likewise be removed from oil of cloves by agitating it with dilute glycerine; but the separation takes place slowly, rendering repeated agitation and boiling with glycerine necessary.

Flückiger (*Schweiz. Wochenschr. f. Ph.*, 1870, No. 26,) suggests to agitate from 2 to 10 grammes of the oil with 50 to 100 times its quantity of hot water; after cooling, the latter is poured off and concentrated by slow evaporation at a low temperature. To a few cubic centimetres of the aqueous solution a drop of ammonia is added, and a small

quantity of good chlorinated lime sprinkled upon it; if phenol has been present, the liquid, after some agitation, will assume a green color, passing into blue, which is permanent for some days. Pure oil of cloves does not show this behavior.

Phenol dissolved in 100 parts of water strikes a beautiful violet color with ferric chloride; in the presence of oil of cloves, the reaction either does not take place, or not sufficiently distinct.—*Journal of Pharmacy*.

How Alum Is Made.

A correspondent of the *London Pharm. Journal* says: The shale of the coal-measures is calcined in long ridges; it is then put into iron vessels lined with lead; sulphuric acid from the chamber is then poured over it, and the mass allowed to digest at about 230° F. to 240° F. The temperature is kept up by steam and ammonia vapor, which are blown in, and also by a small fire underneath the pans. When the solution is strong enough to crystallize, it is drawn off into large coolers, and there agitated to prevent the formation of large crystals; the alum-flour so obtained is washed and redissolved by steam, and the solution run off into crystallizing tubes, where it remains for ten days or a fortnight; the mother liquor is then run off, and the alum is broken up, and is ready for the market. This is a brief outline of the manufacture of alum, as carried on at Mr. Spence's works at Manchester and Goole, one of the largest manufactories of this salt in the world, where 250 tons are turned out weekly.

The French favor Maceration in the Preparation of Tinctures.

The reasons given by the French pharmacists in favor of maceration in the preparation of tinctures are as follows;

(1) Maceration gives excellent results every time a substance is to be exhausted with the smallest possible quantity of menstruum.

(2) It affords products identical and often superior to those obtained by percolation.

(3) It requires no delicate or difficult manipulation for unskillful or inexperienced hands.

(4) It necessitates no pulverization, and, therefore, dispenses with the previous desiccation, by which some active and volatile principles are often dissipated,

The Cure of Hemorrhoids.

Physicians who have treated hemorrhoids by the hypodermic injection of carbolic acid will have observed that some patients have suffered a great deal of pain after the treatment, while others felt scarcely any at all. The following formula will be found much better than the most of those for which three hundred dollars were paid.

Carbolic Acid (Calvert's No. 1)	½ ounce.
Iodoform,	30 grains.
Balsam Peru,	1 drachm.
Camphorated Phenol,	3 drachms.

Mix. Inject 2 to 6 drops according to size of tumor. Inject but one or two tumors at once.

Good Glue Mucilage.

The best quality of mucilage in the market is made by dissolving clear glue in equal volumes of water and strong vinegar, and adding one-fourth of an equal volume of alcohol, and a small quantity of a solution of alum.

The action of the vinegar is due to the acetic acid which it contains. This prevents the glue from gelatinizing by cooling, but the same result may be accomplished by adding a smaller quantity of nitric acid. Some of these preparations are merely boiled starch or flour mixed with nitric acid to prevent their gelatinizing.

Action of Nitrate of Amyl.

When inhaled in small quantities it produces recovery from chloroformic insensibility by dilating the arterioles of the brain and thus removing the cerebral anæmia due to the chloroform. When inhaled in large quantities instead of producing recovery from chloroformic insensibility, it not only retards it but it may cause death by paralysis and over distention of the heart and engorgement of the venous system.

It causes a rise of temperature when inhaled in small quantities by the increase of amount of blood in the arterioles causing an increased tissue change in the body.

In large doses inhaled it produces a fall of temperature. It also helps to produce recovery from the chloroformic insensibility by raising the temperature which is always lowered by chloroform,

and by removing the paralysis of the heart due to chloroform; this action is well seen by the nitrate of Amyl making the heart's beat fewer and its sound louder. Death is caused by paralysis of the heart which is shown by all its cavities being distended and by engorgement of the veinous system.

Adulteration of Chemicals.

Acetic Acid with Sulphuric Acid, and weakened with water.

Muriatic Acid with Arsenious Acid and Sulphurous Acids.

Sulphuric Acid with Sulphate of Lead.

Tartaric Acid with Sulphate of Magnesia to 50 per cent.

Alum with Iron, probable from carelessness in manufacturing.

Muriate Ammonia with Iron is often visible on the surface.

Black Sulphuret of Antimony with Sulphide of Lead (galena) quartz 30 to 40 per cent. clay, etc.

Powdered Arsenic with Sulphate of Lime or Baryta.

Bismuth (metal) with Antimony.

Subnitrate Bismuth with Phosphate of Lime, sometimes to 20 per cent.

Citrate of Iron and Quinine, (some manufacturers add citrate of Ammonia to make it soluble.)

Chloride of Calcium with Caustic Lime.

Chloroform, Diluted with Alcohol.

Cream of Tartar with Terra Alba.

Ether with Alcohol.

Iodoform with Iodate of Lime.

Acetate of Lead with Crystallized Nitrate of Lead.
Sulphate of Morphia with Sulphate of Quinine.
Phosphorus is often adulterated with Arsenic.
Potassa Iodide with the Bromide and Carb. Potass.
Quinine Sulp. with Sulphate of Lime, Cinchonidia,
etc.

Rochelle Salts with Sulphate of Soda, sometimes to 25 per cent.

Santonine with Mica.

Nitrate of Silver with Copper to 5 per cent.

Sulphur Flowers with Gypsum, sometimes to 50 per cent.

Tartar Emetic with Cream of Tartar, to 11 per cent.

Cochineal with Sulphate of Barytes.

Copaiba Balsam with Castor Oil, Resin, etc.

Oil of Lemon with fixed oils to 30 per cent.

Opium, powdered, with Extract of Licorice.

Rhubarb, powdered, with Curcuma.

Senega Root with Cypripedium.

Syrups, replaced by Glucose.

*Creosote with Carbolic Acid.

*NOTE—A very good test to distinguish Carbolic Acid from Creosote is *Glycerine*. True Creosote is *insoluble*, or nearly so, in Glycerine, while Carbolic Acid *dissolves* in all proportions. If Carbolic Acid be mixed in large quantities with Creosote, the Creosote becomes soluble.

Milk an Antidote to Poisoning by Nitrate of Silver.

Mr. Ernest Hart, in a recent number of the *British Medical Journal*, relates that while house-surgeon at St. Mark's Hospital, a piece of nitrate of silver, with which he was painting the fauces of a child, broke, and the larger part of the caustic stick was

swallowed. He produced immediate vomiting by forcing his fingers on to the gullet, and having obtained a large supply of milk, pumped several pints into the child's stomach and out again. The child had dysenteric symptoms during the next three days and occasional vomiting, but was kept on milk diet and recovered. Milk acts as an antidote to nitrate of silver in virtue of its large proportion of suspended albumen. Mr. Hart uses it in lieu of salt and water for neutralizing the excessive effects of even the mitigated caustic, when employing it locally on the mucous membrane of the eyelids.

Beef Tea.

Many persons believe that beef tea is very nourishing, and that it is an excellent strengthener for *people* of weak health. This is a mistake. Some few practitioners and chemists have long been aware of the fact, and now their view is confirmed by Dr. Marcet. There is no nourishment in beef tea. Mixed with solid food, it imparts a relish which promotes digestion; and the best solid that can be mixed therewith is the beef from which it was made, reduced to a powder. In two, at least, of the London hospitals, the mixing of powdered beef with the beef tea has long been practiced, and there the patients get strong on a beef tea diet. It is worth remembering, too, that the objections to the use of beef tea apply equally to the preparation described as Extract of Meat, with the further disadvantage that the extract is always stale.—*Chambers' Journal*.

Embalming the Dead.

There are some specimens at this moment on the table which show how well the process of preservation of dead structure may be maintained by the contact of gases and vapors. Here are two kidneys showing the extreme congestion of these organs that is found in fatal cases of congestive fever—that sudden nervous lesion of the vessels of visceral organs, during which the heart pours its blood into them until, from engorgement, they cease their function. These parts have been in vapor of ammonia for the period of twelve years, and here they remain nearly as at the moment they were removed. There is a specimen of portions of intestinal tract studded with minute and large hemorrhagic spots, in which the lesions are equally perfect, and in this instance the preservation has extended over twelve years.

I found this method of preserving animal substances of great use to me in teaching. Dissections of various organs, as of the heart, I have kept from week to week, and have demonstrated readily from them, without the trouble of new dissection.

Pursuing this subject of preservation still further, but in a slightly different course, I attempted to bring back animal tissue, that had undergone actual putrefaction, to something like a recognizable pattern of natural condition; and once, in the interests of justice, I manipulated on an unrecognizable putrid body, and so far succeeded as to enable important evidence of identity, which could not before be obtained, to be secured.

Still pursuing the same research, I constructed a fluid for treating organs of the body that had become absolutely offensive from putridity, so that they could be examined for marks of injury or other lesions. This fluid, some of which I send round, is made as follows: Iodine, 1 drachm; methylated ether, of sp. gr. .720 (by measure), 10 oz.; absolute alcohol (by measure), 1 oz.; strong sulphuric acid (by measure), 4 drachms. Dissolve the iodine in the ether and alcohol mixed together, then slowly drop in the sulphuric acid.

The fluid, when it is poured upon the putrid tissue, is almost instantly absorbed; the soft mass is deodorized effectually, and is rendered sufficiently firm to admit of being dissected with ease. In the open bottle I hand to you is a piece of once putrid lung that was thus treated three years ago; and you can see how perfect it remains. The action of this solution is that the iodine deodorizes, while the sulphuric acid engages the water and the alkaline products of decomposition, and produces the necessary firmness of structure. The ether escapes; it is simply the fluid or menstruum for the other agents.

The process of embalming is a scientific process, equal certainly with that of conducting a *post mortem* examination; and it is sometimes a useful process. It is often so imperatively demanded that, on the refusal of men of science to do it, the ignorant are paid large sums to attempt it. Lastly, it is an art which essentially belongs to the professors of medicine, who can never let anything that per-

tains to the physics of the body, living or dead, pass out of their hands without proclaiming that part of their legitimate occupation has gone.—*Dr. B. W. Richardson.*

Preservation of Tinc. of Kino From Gelatinizing.

BY J. W. WOOD.

Among all our tinctures, perhaps, there is not one so liable to deteriorate by exposure, or by long keeping, as tincture of kino, made in accordance with the U. S. Pharmacopœia; its well-known property of gelatinizing in a short time—a property which yet remains to be investigated—being thereby rendered inert, precludes it from being as extensively used as its virtues would seem to warrant.

This property renders it inadmissible, when we desire a reliable tincture, to prepare it in large quantities.

The Pharmacopœia formerly directed it to be prepared with dilute alcohol as the menstruum; but, later, it was thought to be of advantage to increase the proportion of alcohol to two-thirds; yet it is doubtful if there was much gained by this change.

I would, therefore, submit the following mode of preparation, which I consider, from the experience which I have had, will meet with the desired end, and up to the present time results do not seem to disprove it. It is as follows:

R̄. Kino in fine powder,	℥ iss.
Alcohol .835,	f. ℥ viij.
Aquæ,	f. ℥ iv.
Glycerinæ,	f. ℥ iv.

Mix the alcohol, water and glycerine together, and, having mixed the kino with an equal bulk of clean sand, introduce in a percolator and pour on the menstruum.

This menstruum seems to thoroughly exhaust the drug of its astringent principle, and also makes a nice-looking preparation.

Some which I made on the 16th day of July, 1870, was exposed to the influence of the atmosphere, the stopper of the bottle containing it having been removed for several months, so that it had evaporated at least two-thirds; yet it remains as good as when freshly made, without any apparent tendency to gelatinize.

The menstruum might be somewhat modified, perhaps with advantage, as, for instance, by using proportionally less alcohol and more glycerine and water, or *vice versa*. At any rate, I will give it for what it is worth, adding, at the same time, the suggestion—and it is only a suggestion—that the same menstruum be employed in preparing tinct. catechu, which, though not so liable to gelatinize as tinct. kino, yet sometimes does so.—*Jour of Pharm.*

Preparations of Fancy Soaps.

Fancy soaps, which are made in great variety for the toilet, are usually scented with some aromatic oils. For this branch of the trade, the ordinary commercial soaps are used, after undergoing a process of refinement, or a soap is especially used for the purpose, made from olive oil or the like. Much taste is shown by the best London makers in the

selection and combination of the perfumes, which, along with the coloring matter, such as vermilion or yellow ochre, aniline, &c., are usually boiled up with the soap. To facilitate this operation, as a well dried soap does not readily melt, it is usually cut up into fine shavings, and after boiling, is well worked under rollers until it presents a uniform appearance. If the soap is intended to be highly scented, or very expensive perfumes are to be employed, the cold process is adopted, as much of the strength of the scent is lost by boiling. In this case the soap is shredded as before, and the perfume and coloring matter well amalgamated with it by being worked in a mortar with a pestle. It is then divided into lump, and roughly moulded with the hand into something of the shape it is finally to assume. After being left in a rack to dry for about a week, it is pressed into a mould, which imparts to the cake the form and device which may be required, and when taken out the edges are trimmed and the surface polished with the hand.

Gold Gilding Bath.

This article is sold in commerce under the form of a limpid, brown-black resinous liquid having an agreeable aromatic odor of cinnamon oil or Peru balsam. Applied to porcelain in thin layers, with a camel's hair brush, it appears greenish brown and the surface dries rapidly. With gentle heat the covered portion at first turns black, then bright, sometimes iridescent, and finally the beautiful, clear yellow gold color appears. Dr. H. Schwarz, of Graz,

Austria, has recently tried many methods for the preparation of the gilding bath, and gives the results of his experience in a German journal. He dissolves one part of the gold in aqua regia, expels the excess of acid over a water bath and continues the evaporation until the liquid crystallizes on cooling.

The reducing bath is prepared by dissolving 10 grains of sulphur in 50 grammes of old oil of turpentine in a retort provided with a Liebig's condenser, boiling for a considerable time, and finally adding an equal quantity of lavender oil.

The gilding liquid is made by mixing 8 or 9 parts of the sulphur balsam reducing bath to one part of gold in the form of chloride, and rubbing the mass intimately with a pestle. If too little of the sulphur balsam liquid were to be taken the chloride of gold would not dissolve; and it is better not to apply the lavender oil and solution of sulphur in the turpentine separately, but to previously mix them and apply them as directed above.

It is better to work with small quantities, as much heat is evolved by the decomposition of the chloride of gold.

Hydrochloric acid fumes are given off during the trituration, and this explains why, in the commercial gilding solution, there is usually no chloride of gold. In all probability sulphide of gold combines with the sulphur resin of the reducing bath, which is dissolved in an excess in the same way as sulphide of gold is dissolved in the alkaline sulphides.

Thus prepared the gilding liquid is thick, resinous not sticky to the touch, soluble in lavender oil, miscible with bisulphide of carbon in any proportion without decomposition.

After thoroughly incorporating the mixture of chloride of gold and the reducing bath in a mortar, it is well to let the magma remain for twenty-four hours in a quiet place, protected from dust, in order to suffer all of the free hydrochloric acid to escape and to insure complete decomposition.

The gilding thus prepared exhibits, when painted upon porcelain and burned in, a fine gold color and brilliant lustre, but it is too easily removed by friction; to obviate this it is well to take for two parts by weight of metallic gold one part of finely pulverized basic nitrate of bismuth, or carbonate of bismuth, and rub well together, and also allow to stand for some time. This will insure a permanent gilding to porcelain.—*Jour. of App. Chemistry.*

Color Test for the Detection of Strychnia.

Mr. W. T. Wenzell communicates to the *American Journal of Pharmacy* some remarks on the most delicate color test for the detection of strychnia. Although it is generally believed that the application of the test in the solid form is that which is to be preferred, this method has the great objection that the proportions of the salt and acid used are always too great towards the quantity of strychnia tested, if the latter exist in very minute proportions or traces. It is required to add to the acid previously dropped on the suspected spot a fragment

of a crystal of bichromate of potash, but if the alkaloid is minute, however small the crystal may appear, the oxidation will take place so rapidly as to either fail altogether in making an impression on the optic nerve or merely produce a momentary flash of blue. In testing for minute portions of the alkaloid, it is a desideratum to use a re-agent, the proportionate relations and superior sensitiveness of which will admit of the successful demonstration of mere traces of the poison. In experimenting towards that end, I have found that a solution of one grain of permanganate of potassium in 2,000 grains of sulphuric acid is *par excellence* the test for that purpose. In delicacy of reaction, brilliancy of colors, and duration, I have found it to be, in parallel experiments made with the bichromate of potassium and sulphuric acid test, greatly its superior. In testing, the sulphuric acid must be added in extremely minute quantities; then, by means of a small pipette, the point of which is drawn to a capillary bore, and charged with the re-agent, a minute drop is allowed to flow upon the dot of acid, when, by means of a pointed glass rod drawn around the margin of the spot, the colors created by the re-agent are obtained, with varied degrees of vividness and duration, according to the amount of alkaloid contained in the deposit. Scrupulous accuracy and cleanliness should be observed in conducting these micro-chemical manipulations. The re-agent ought to be freshly prepared, from pure materials of proper strength, and used quantitatively with the greatest care.

Suppositories Without Moulds.

Take cocoa butter, which has been kept in a cool place, and powder it in a Wedgewood mortar. This can be done with proper care and sufficient trituration. Having reduced the butter to a uniform powder, mix with it the medicament prescribed. If an extract is directed enough finely power slippery elm bark (this is the best article for the purpose, as it is the least irritating), should be rubbed with it, to make the extract a damp powder. In all cases the medicament should be thoroughly powdered before mixing with the butter. After completely incorporating the medicament and excipient, make the whole into a mass by the aid of *very little* heat; the breath is sufficient in hot weather. Then, by putting the mass into a soft cotton cloth, it may be worked in the hands with as much ease as a good pill mass. After dividing it into the required number of parts, which can be more accurately done on a pill tile, mould them into the shape of a minie rifle ball with the fingers, keeping the cloth between the suppository and the skin, thus rendering the moulding easy and preventing the mass from melting.

The quantity of cocoa butter I generally use for a vaginal suppository is one drachm. A suppository made in this way will be ready for use almost as soon as it is moulded, will remain hard and not crumble. I have made them in this manner when the thermometer ranged from 90° to 98°, and have found no trouble, they soon harden and remain in that condition till used.

Soda Mint.

The very popular "Soda Mint," so much employed as an antacid and carminative for *overfed* infants and dyspeptics, was originally a favorite prescription of Dr. Geo. Norris, of this city. His formula was the following:

R. Sodæ Bicarb.,	℥ ss.
Spts. Ammon. Aromat.,	℥ j.
Aquæ Menthæ Piperitæ,	O j.

M.

Dose—From a dessertspoonful to a tablespoonful, for adults; from half to one teaspoonful, for infants.—*Journal of Pharmacy.*

Amount of Extract from Different Drugs.

The percentage of extract obtained from different drugs may be stated as follows:—

Extractum Aloes.....	50 per cent.	
“ Cardui benedicti.....	34	“
“ Cascarillæ.....	8.5	“
“ Catechu.....	54	“
“ Centaurii minoris.....	25	“
“ Chinæ calisayæ.....	8.5	“
(prepared cold.)		
“ Chinæ fuscæ.....	14	“
“ “ “.....	15	“
(prepared cold.)		
“ Colocynthis.....	32	“
“ Colombo.....	10	“
“ Conii maculati.....	3	“
“ Dulcamaræ.....	16	“
“ Ferri pomatum.....	4.5	“

Extractum Gentianæ.....	27	per cent.
“ Helenii.....	31	“
“ Hellibori nigri.....	25	“
“ Hyocyami.....	1.5	“
“ Ligni campechiani.....	7	“
“ Ligni quassiae.....	3	“
“ Myrrhæ.....	50	“
“ Opii.....	51	“
“ Scillæ.....	68	“
“ Pimpinellæ.....	20	“
“ Rad. glycyrrhizæ.....	20	“
“ Ratanhiæ.....	12	“
“ Rhei.....	33	“
“ Sambuci.....	8	“
“ Secalis cornuti.....	14	“
“ Sem. colchici acid.....	25	“
“ Senegæ.....	23	“

To Remove Tar, Turpentine, Etc., From Objects.

By accident, I recently discovered a simple combination that will speedily and effectually remove from glass, porcelain, hands, or any parts of the body, Venice turpentine, tar, pitch, or any sticky substance of a like nature that will resist warm water and soap. It is entirely harmless to the skin, and yet it will remove these substances as promptly and as thoroughly as soap and water will remove common dirt.

All are aware how difficult a task it is to cleanse a graduate after measuring any given quantity of Venice turpentine, or to remove the traces of a rather soft, sticking, or other plaster from the

human body. Now, to let the "cat out of the wallet," here is the secret in a nutshell.

For Cleansing Glass.—An amalgam of the pulverized extract of licorice and oil of aniseseed. This seems to combine with the turpentine, and it may then be rubbed dry and clean with a pledget of cotton.

For cleansing tar or pitch from the skin, make the mixture about the consistency of thick cream, and rub on thoroughly with the hand; then follow with a piece of good soap, a sponge, and warm, soft water.

We give you this gratuitously, on the condition that you inform us if it does not do what we claim for it.—A. D. Binkerd, M. D., in *Med. and Surg. Rep.*

A New Test for Starch.

The old and familiar test for starch is the blue color which free iodine produces when brought in contact with it; but this is not the only re-agent by means of which we can detect the presence of starch in combination with similar bodies. Bromine is nearly as good as iodine, and tannin is said in some instances to be better. A solution of 3.5 grammes tannin in 300 c. c. distilled water, will answer for making the test. A drop of this tannin solution will cause a precipitate in extremely dilute solutions of starch; the precipitate dissolves when warmed, and reappears when the solution cools, and where the starch paste is old the reaction is said to be more sensitive than that of iodine.

Dispensing or Compounding.

The difficulties we meet with in dispensing, (or, perhaps, I should rather say, in compounding,) chiefly occur in mixtures, pills and ointments, and I propose to give some instances in each class, with the manner in which I have overcome them, when I have been able to do so.

With the mixtures the trouble generally arises, either from decomposition of some ingredient, or from non-amalgamation of the component parts,—both these cases frequently arising from want of attention to the proper order of mixing; the latter are commonly of an emulsive character, consisting either of an alkali and oil with water or mucilage, and oil with water and other ingredients.

Here is one:

Pot. Carb.,	2 drachms.
Aq.,	1½ ounces.
Solve et adde—	
Syr. Tolu,	½ drachm.
Ol. Amygd.,	1 “

That mixes pretty well if these directions are followed, but it does better if the salt of tartar is dissolved in an ounce or two of water, the syrup and oil added and well shaken, then the rest of the water.

Here is one with mucilage:

Ol. Ricini,	2 drachms.
Sacchari,	2 “
Mucil-acac,	2 “
Aqua,	1 ounce.
Ol. Menth. Pip.,	Gtt. 2.

This is best mixed in a mortar. Rub the oil of peppermint with the sugar, add the mucilage and a little water, then the oil, and when these are well mixed, the remainder of them gradually; you will then have a nice, milky-looking mixture, without any globules of oil floating about. Always take care that the mucilage and oil are well mixed in this kind of mixture before the water is added, or you will have drops of oil floating about. Should any tincture or spirit form part of the ingredients, mix it with a little of the water and let it be added last, or you may possibly find the mixture "come unmixed," for gum is precipitated from its solution by spirit; and do not forget that the oil is to be added to the mucilage, not the mucilage to the oil.

Here is a mixture of a different kind:

Tr. Benz. Co.,	2 drachms.
Mucil.,	$\frac{1}{2}$ ounce.
Liq. Morph.,	1 "
Aqua,	2 drachms.

Now, in this case, if you add water to tincture, the benzoin is all precipitated and rises to the surface, and it is impossible to mix it, but just shake the tincture well with the mucilage, then add the water, and you are all right.

Here is another:

Bals. Cop.,	$\frac{1}{2}$ ounce.
Liq. Pot.,	2 drachms.
Spts. Lav.,	$\frac{1}{2}$ ounce.
Spts. Nitr.,	1 drachm.
Mucil.,	2 ounces.

The best way to manage this is to reverse the usual order of things; mix. the Liq. Pot. with the Spts., add the Balsam, shake together, then add the mucilage; so that you see chemical theory and dispensing practice do not always agree.

Mixtures with Tragacanth Powder or Mucilage used to be very troublesome to me until I learned how to manage them; this is another instance of an entire upset of orthodox dispensing practice.

The good old plan of using a mortar when powders form part of a mixture does not answer here, as everyone who has tried it knows very well; but let the tinctures or spirits, if there are any, be put into the bottle first, the tragacanth powder added, and your mixture is made without any trouble. If there should be no spirit of any kind in the mixture, half fill the bottle with water, add the tragacanth powder as the B. P. directs, and you have no difficulty.

Then again, vegetable powders, such as Rhubarb or Ipacacuanha and compound powders, as Gregory, do not mix readily with water; in all these cases the plan is to mix them first with any tincture or spirit there may be, and there is no difficulty if there be no spirit. Mucilage or spirit is better than water. Bicarbonate of Potash or Soda with Citric Acid are often ordered together in mixtures, and the effervescent passes off directly and you can finish your mixture at once.

The other day I had a mixture in which two drachms of Potass. Cit. and one drachm Ferræ et Quin. Cit. were ordered with other ingredients; the

Potash happened to be Alkaline and precipitated the Quinine, which it ought not to have done, for the mixture should have been clear. It required about fifteen grains of Acid Cit. to dissolve the Quinine. Possibly some of you have met with a similar mixture.

I once had a prescription which I had to make several times but never succeeded in getting to mix, although I tried a different way each time. It was this:

Glycerini,	1 drachm.
Mist. Acac.,	$\frac{1}{2}$ “
Ol. Amygd.,	1 “
Syr. Aurant.,	$\frac{1}{2}$ “
Liq. Calcis Sac.,	$\frac{1}{2}$ “
Aqua ad.,	2 “

And whichever way I mixed it the Liq. Calc. and Oil seemed to form a kind of insoluble soap, which separated immediately.

Now, with regard to pills, you will know the trouble they give sometimes; either they are too hard or too soft, or they will not mix, or they crumble to pieces in rolling out, or go contrary in some way or other, and are very difficult to manage satisfactorily.

Some of the most troublesome masses to deal with are those containing essential oil. Peppermint, to my thinking, being particularly perverse, more especially when Ext. Rhei is present. P. Capsic is another very insoluble article, and very often makes the mass crumble to pieces; but get a prescription with Ol. Ment. Pip., and Ext. Rhei, and

then you have an enormity,—indeed it is hardly possible to give any general rule in these cases, for a good deal depends on the nature of the other ingredients; but if you find the mass crumbling or splitting to pieces on rolling out, it wants something to soften it.

Some time ago there was considerable discussion as regards the making of Creosote pills. I find the best way is to rub the Creosote, say 10 or 15 drops, with 10 grains of P. Sapo. Cast., add the same quantity of Calcined Magnesia, then sufficient Licorice Powder. This forms a mass that is sufficiently cohesive, and does not make the pill too large.

Camphor is sometimes very troublesome in pills, especially if there be much of it; it seems to make the pills go hard and crumble to pieces; the best way to prevent this is to get the mass worked and rolled out as quickly as possible./

Here is an example:

Camph.

Ext. Cinchon.

Zinc. Valer., of each one scruple.

This, if done quickly, and add the Ext. Bark tolerably soft, makes up without much trouble; but left at all it becomes quite hard and requires a considerable quantity of mucilage to make it up.

When a pill mass is not much too soft a little P. Tragac. is generally the best addition; but in cases where a soft extract is ordered this plan will not do. The only plan is to leave out a portion of the extract, and use some dry powder in its place; for instance, we have often 2 or 3 grains Ext. Hyose., or-

dered with the same of blue pill. Nobody can make them into a satisfactory pill, supposing the extract to be in its usual state; but take about two parts of extract and of P. Hyose. you get a nice, firm pill of the proper size.

The same with Ext. Gent. and Sulph. Ferri., of which here is an example:

Ferri. Sulph.,	12.
Ext. Gent.,	48.
Oil Cin.,	12.

I should like to see the prescriber make that into pills, without any alteration. The only way to make into a decent pill is to leave out about half the essential oil and use nearly as much powdered gentian as extract.

I shall not detain you long with ointments, but there are two or three cases I will just mention. Where you have an extract, such as belladonna, to mix with lard or other fats, if you attempt to mix them together direct, there is considerable difficulty in getting a smooth ointment; but if you soften the extract first with a little hot water and rub it smooth and then add the lard, or whatever it may be, you have no trouble.

Glycerine is now frequently prescribed in ointments, and is difficult to mix. Supposing it is ordered with Ung. Zinci, as is often the case, do not use ready made zinc ointment, but weigh the proper quantity of oxide, rub the glycerine with it and then add the lard, then a good smooth ointment is the result. If there be no powder, melt the ointment, but do not let it get too hot, and beat the glycerine

in and stir until cold, it then mixes much better; but still if there be a large proportion of glycerine it will separate after a time.—*London Pharmaceutical Journal*.

To Exhaust Cinchona Bark.

The result of experiments show that by percolation with cold distilled water alone, only about three-sevenths of the different alkalies can be extracted; to obtain the remaining four-sevenths dilute, the hydrochloric acid must be used. The smallest quantity of acid is seventy-three grains of anhydrous hydrochloric acid for every three hundred and twenty grains of alkali ascertained to be present in the bark, which will correspond to a mixture of half an ounce of water. Hence De Virj advises to mix the powdered bark with sufficient cold water to form a thin gruel and add the requisite calculated quantity of hydrochloric acid; the percolations are finished with cold water to exhaustion, then the percolate is evaporated in a water bath to the desired consistence. A fluid extract containing one hundred per cent, that is, grain for grain, will be found very convenient. A good fluid extract prepared as above must answer the two following tests.

(1) One hundred grains mixed with an excess of solution of caustic soda must yield a precipitate which, after washing and drying, must weigh at least five grains.

(2) A few drops of concentrated hydrochloric acid must produce a precipitate consisting of conchotannic and hydrochloric acids, which precipitated must again be dissolved on the addition of much water.

Suppositories.

T. D. Reed recommends the following process of manufacturing suppositories.

Weigh out the ingredients and the cocoa butter, and place them on an ointment slab which has had some boiling water poured over it. If there is an extract such as belladonna, etc., a few drops of water must be used to thin it. Then rub up with a spatula just like an ointment. By this means a smooth diffusion of the ingredients can be obtained, the heated slab melting the cocoa butter.

The mould, which may be of the simplest description, should be placed on ice. The spatula can now be used as a spoon to lift the semi-fluid mass and pour it into the mould, rubbing up again the remainder as each cavity is filled. If the quantity of excipient and medicine together has been properly adjusted to fit the mould, elegance with correctness will result. If for any reason casting is impracticable or not desired, an excipient of the B. P. is recommended. With this a mass can be made just like a pill mass, there being no grease in it, it may be handled with impunity, and can be divided with the same certainty of correctness of dose as a pill mass. The pieces may be simply finished with the spatula or pressed with the fingers separately into moulds.

If the mould is one that does not open they must be wrapped in tissue paper, to facilitate their removal.

Preparation of Glycerine Suppositories.

Glycerine suppositories are now very generally manufactured, and as is well known they are used for producing a gentle laxative effect upon the bowels. The problem which has confronted the Pharmacist has been to combine a comparatively large quantity of glycerine with an inert body, capable of giving the requisite solidity to the mass, and at the same time soft enough to liquify the rectum. Very many formulas have been in existence, but in Prof. J. P. Remington's opinion, none gives as much satisfaction as the following:

Sodium Carbonate,	40 grains.
Stearic Acid,	80 “
Glycerine,	1080 “

Dissolve the sodium carbonate in the glycerine, add the stearic acid, heat carefully (preferable by the use of water bath) until effervescence ceases; then pour the solution into a suppository mould to make 12 suppositories. There is no necessity of cooling the molds with ice, although there is no objection to this in warm weather. As each suppository contains about 90 per cent of glycerine, they must be protected from the action of moist air, which has a tendency to liquify them. Several expedients are resorted to. Each one may be wrapped in tin foil or quickly dipped in melted paraffine; or each one may be enclosed in a small glass vial without a shoulder, and made for the purpose of holding one suppository.

A Simple Reaction for Codeine.

A simple reaction is mentioned by Benzech, consisting of heating a common mallow flower with about 10 c. c. ($2\frac{1}{2}$ fl. drachms) of water to the boiling point, and then adding to the decanted fluid the presumed solution of codeine. If the latter alkaloid be present the mixture will turn a beautiful green, which is not the case if morphia be present. This simple reaction is of especial value in France where morphia and codeine syrups are officinal.

An Improvement in Preparing Syrups for Soda Water.

In the preparation of syrups care should be taken that the very best refined sugar only is employed, and either distilled or filtered rain water, as they will be rendered much liable to spontaneous decomposition, and become perfectly transparent without the trouble of clarifying. When impure sugar is employed, clarification is always necessary. The best way to do this is to dissolve the sugar in the water or fruit juices cold, and then beating up a little of the cold syrup with some white of egg and one or two ounces of cold water until the mixture froths well; this must be added to the syrup in the boiler, and when the whole is agitated to a froth, heat should be applied and the scum that forms removed, from time to time, with a clean skimmer. As soon as the syrup begins to simmer it must be removed from the fire and allowed to stand until it has cooled a little, when it should again be skimmed, if necessary, and then passed through a flannel. By

using refined sugar, however, all this trouble of clarifying can be obviated.

When vegetable infusions or solutions enter into the composition of syrups, they should be rendered perfectly transparent by filtration or clarification before being added to the sugar. The proper quantity of sugar for syrups will in general be found to be two pounds av. to every pint of water or thin aqueous fluid.

These proportions allow for the water that is lost by evaporation during the process, and are those best calculated to produce syrup of proper consistency and possessing good keeping qualities. They closely correspond to those recommended by Guibourt for the production of a perfect syrup, which, he says, consists of thirty parts of sugar to sixteen parts of water.

In the preparation of syrup it is of great importance to employ as little heat as possible, as a solution of sugar, even when kept at the temperature of boiling water, undergoes slow decomposition. The best plan is to pour the water (cold) over the sugar, and allow the two to lie together in a covered vessel, occasionally stirring, and then to apply a gentle heat, preferable that of steam or of a water bath to finish the solution. Syrups are sufficiently boiled when some taken up in a spoon pours out like oil, or a drop cooled on the thumb-nail gives a proper thread when touched. When a thin skin appears on blowing the syrup, it is judged to be completely saturated. These rude tests, however, often lead to errors which might be easily prevented

by employing the proper proportions or determining the specific gravity by immersing in the syrup one of Baume's saccharometers or syrup gauges, as indicated in the following table:

Sugar in 100 parts.	Spec. Gravity.	Deg. Baume.
0.	1000	0.
5.	1020	3.
10.	1040	6.
15.	1062	8.
20.	1081	11.
25.	1104	13.5
30.	1128	16.3
35.	1152	19.
40.	1177	21.6
45.	1204	24.5
50.	1230	27.
55.	1257	29.5
60.	1284	32.
67.	1321	35.

A fluid ounce of syrup weighs $577\frac{1}{2}$ grains, a gallon weighs $13\frac{1}{2}$ pounds, its specific gravity is 1319 to 1321 or 35 degrees Baume. Its boiling point is 221 F. and its density at the temperature of 212 degrees is 1260 to 1261 or 30 degrees Baume. The syrups prepared with the juices of fruits mark about two or three deg. more on Baum's scale than the other syrups,—according to Ure, the decimal part of the number of pounds of sugar it contains per gallon. The preservation of syrups as well as of all saccharine solutions is best promoted by keeping them in a moderately cool place. Let syrups be kept in vessels well closed and in a situation where the temperature

never rises above 55 degrees F. They are kept better in small than in large vessels, as the longer a bottle lasts the more frequently it will be opened, and the syrup consequently exposed to the air. By bottling syrups while boiling hot and immediately corking down and tying the bottles over with a bladder, perfectly air tight, they may be preserved even at a summer heat for years, without fermentation or losing their transparency.

The candying of Syrups may be prevented (unless the syrup be over saturated with sugar) by the addition of acetic or citric acid, two or three drachms per gallon. Confectioners add a little cream of tartar to the syrup to prevent granulation. Syrups may be effectually prevented from fermentation by the addition of a little sulphate of potassa or lime; also the use of salicylic acid in small quantities. Fermenting syrups may be immediately restored by exposing the vessel containing them to the temperature of boiling water; the addition of a little spirit is also good, say about 10 per cent.

The bases of most mineral water syrups in simple syrup, is prepared by adding sixteen pounds finest white sugar and the white of four eggs to one gallon of water, stirring until all the sugar is dissolved and simmering over a gentle heat for two or three minutes. Skim well and strain through a fine flannel bag.

The best way to keep fruit syrups from fermenting is by bottling while hot.

A great number of syrups are made by the addition of proper flavoring ingredients to simple syrups, but in other cases, especially where the juice of fruits is employed, the syrup is not first prepared and then flavored, but the processes go hand in hand.

In such instances specific instructions will be given. It is always advisable, when fresh fruit can be obtained, to use it in preference to the essence. One general recipe, which answers for nearly all fresh fruit, is as follows: Use nothing but the very best fresh fruit, which must be freed from stocks, etc., and crushed with a wooden instrument; when well mashed, let it stand in a room of even temperature for four days, which will give sufficient time for fermentation to take place; press out the juice from the fruit and let it settle in a cool cellar for two days, after which five pounds of the clear juice is to be simmered with nine pounds of loaf sugar; while warm, strain through flannel. The color may be improved by a solution of aniline.

It is advisable to add to the fresh fruit, before setting it for fermentation, about two pounds of powdered loaf sugar for every 106 pounds of fruit. When cold it is ready for bottling. Cleanliness should be strictly observed in all the utensils used. When bottled for storing, skim the top of any floating matter from the syrups in the large pan, and see that no residue of the bottom goes into the bottles. Most of the syrups that are made from fruit may have a little mucilage of gum arabic added in order to produce a rich froth.

Extracts and Essences.

In making essences, extracts, etc., of vegetable products, such as lemon, ginger, etc., the liquid extract is more or less turbid from the presence of insoluble or partially insoluble matters derived from the substance treated. To render the extract pleasant to the eye and make it brighter, it must be rid of this turbidity; at the same time, as this is frequently due to the presence of albuminous or gelatinous matter, which is very prone to fermentation, depriving the liquid of its turbidity, means making it keep longer than it would otherwise do. Filtering, while effectual, as a rule is not always satisfactory, as the turbidity is usually produced by very fine particles that clog the pores of the filter paper and makes the operation very slow. So resort is made to what is called "clarification," which means treating the liquid extract in some way as will cause it to filter rapidly. This is brought about by causing the solid particles which are suspended in the liquid to coalesce together or combine with some medium which may be added for the purpose.

One the of best clarifying agents is albumen. This body has the property of coagulating by heat, and if it be present in liquid, simply heating this will cause the albumen to coagulate in flakes, which tend also to carry down with them any solid matter that may be in the liquid.

Vegetable extracts frequently contain, especially if they are extracted cold, enough albumen to effect clarification, especially if gently heated. Egg albumen dissolved in a small quantity of cold water may be

used. One ounce will be sufficient for two gallons of liquid extract. The two are mixed together and heated until coagulation occurs, then it is filtered. The process is facilitated and the effect of the albumen increased by adding a small quantity of pure kaolin liquor; pulp made of filter paper may be used instead of the kaolin, and for clarifying syrups there is scarcely any other substance that acts as well.

The best method of carrying out this process is to proceed as follows: For a small filtering bag, take one sheet of filter paper, for the largest size of filter bag, four sheets of filter paper. Tear the paper into small pieces, place it in a basin, and add about a pint of water; allow to soak for one day, then make the paper into a pulp by beating it in a mortar, which, when nicely pulped, pour into the bag and squeeze out the surplus water. Take out the ball of pulp from the bag and stir it into the liquid to be clarified, then pour the whole into the filter bag. It will be found best to keep the filter bag full during the process, as filtration is much quicker with a full than half empty bag. Some extracts that are made from skins, etc, of fruits are liable to contain traces of albumen, pectin, etc. These can be removed by adding a small quantity of alcohol, just enough to precipitate these matters and no more.

The exact amount should be determined for every batch of extract by an experiment on a small scale. A small quantity of tannin added to the extracts prepared from juicy fruits and which contain albumen, pelatin, gum or pectin, will precipitate, especially if the extracts be gently heated before adding

the alcohol. The addition of a little washed barytes or China clay will much facilitate the clarifying process by carrying down the floating particles which cause the turbidity that it is desired to rid the extract of. For clarifying alcoholic liquors the following mixture will be found satisfactory:

Albumen (dry)	4 parts.
Milk Sugar (dry)	4 “
Starch	2 “

These are mixed dry and ground to a fine powder. Seventy-five grains of this are sufficient to clear a quart of liquid. It is added and the mixture thoroughly shaken together, and then allowed to stand for a day or two, when the mixture will have settled to the bottom, carrying with it all floating matter. By filtering it the clarifying process will be facilitated.

Cold Process for Syrups.

Fred B. Kilmer gives the following suggestions in reference to mixing cold Syrups:

Appliances for the proper application of heat in the preparation of syrups, especially in small stores, are not always convenient, and even under great care many of the ingredients are liable to injury. In fact, without considerable experience and a great amount of care, the syrup will be either under or over boiled, the delicate flavor injured, and a quickly deteriorating product result.

The cold process in a great measure obviates this. Its application may be readily understood by taking simple syrup as a guide (using for convenience the quantities directed in the U. S. P.).

Granulated sugar,	36 troy ounces.
Water,	20 fluid ounces.

Mix these in an ordinary perculator of sufficient capacity; introduce a small well-cleaned sponge, pressing it firmly into the opening of the neck; upon this place the sugar about one-fourth at a time, packing each portion before the next is added. Cork the lower outlet and pour the water upon the sugar; when the latter has become thoroughly permeated remove the cork, and the syrup will then pass drop by drop into the receiving vessel. Lastly, if necessary, add sufficient water to complete the required measure of two pints and twelve fluid ounces.

In a like manner, after preparing the proper menstruum, any syrup may be made by proceeding by percolation as above described, where the Pharmacopœia directs the sugar to be dissolved in the menstruum by a gentle heat.

The following notes will aid in the first use of the process:

If the sponge in the neck is pressed too tightly the process will be tedious, or may be effectually stopped. If placed too loosely, the resulting syrup will not be clear nor of proper consistency.

Sometimes if the sugar is loosely packed the water will work a hole through and leave a portion of undissolved sugar. In such case the remaining sugar should be firmly packed and the percolate run through again.

In the Pharmacopœia several syrups are directed to be made by the mixture of fluid extracts of the drug with simple syrup. Made thus with cold pro-

cess syrup they give a good preparation. I may note just here that in syrup of rhubarb the addition of eight grains of carbonate of potassium to each fluid ounce of extract greatly improves its appearance, and the substitution in syrup of ipecac of one ounce of glycerine in the place of the same amount of syrup will add to its keeping qualities.

A very good syrup of Iodide of Iron may be made by the cold process by preparing the solution according to the U. S. P., but instead of adding it to heated syrup, as there directed, subjecting the proper proportion of sugar to percolation with the solution mixed with the requisite amount of water. In preparing this syrup both the percolate and receiving vessel should be air-tight.

The menstruum for many syrups is prepared by first exhausting the drug with spirits and the percolate, afterward concentrated by evaporation. This entails the use of heat in ordinary practice, and its use afterwards impairs their stability and excellence. Although I have experimented upon it, I am not prepared to offer a suitable plan to obviate its employment, but I offer the following notes:

Spontaneous evaporation may be conducted in the open air, and with patience successfully completed.

In conducting percolation for concentrating, set aside the first portion of the percolate and subject only the later or weaker portions to evaporation.

In evaporation I have found a bath of sand and water combined and the use of a steady heat (as low as possible to accomplish the work) to give the best results.

A tincture for syrup of tolu made the double strength U. S. P. and used accordingly, will economize alcohol and give a more elegant syrup. Also a concentrated tincture of orange, from which the menstruum for the syrup can be prepared by the aid of magnesia and water, thus obviating the evaporation, which greatly affects the delicate flavor.

Comparing the samples made by the process of the U. S. P. with those of the cold process, in nearly every instance the latter are found fully equal, while in some instances are greatly superior.

My conclusions, therefore, are in favor of the cold process, it giving in every instance, when properly conducted, a clear and elegant product.

A large or small quantity being readily prepared recommends it strongly to the retail druggist—it proving a saving of time and trouble by requiring less care and attention.

CHAPTER II.

LAW DEPARTMENT.

Liability of Druggists in Cases of Fatal Poisoning.

ISIDOR LEWY vs. CHAS. H. PLAUTZ.

Here was a case most interesting to druggists. It appears that the plaintiff instituted proceedings to recover damages in \$5,000 for the death of an infant son, five months old, resulting from the filling of a prescription by a clerk of Mr. Plautz, a prominent Chicago druggist, using morphine instead of calomel. The case was tried before Judge Williamson in the Superior Court of Cook county. The prosecution attempted to prove that in 1881, while the child was suffering from an attack of cholera infantum, a physician named Ball was called in, who prescribed two grains of calomel and forty grains of sugar, to be put up in ten powders. A grandfather of the child took the prescription to Mr. Plautz's store, handed it to a clerk named Jacobs, and after waiting forty-five minutes, a number of prescriptions being ahead of his, was handed a box containing the powders. Hurrying home with it, a powder was promptly administered to the infant, but, instead of improving, it began to groan and have convulsions. The prescribing physician was again summoned, and, arriving about two

hours subsequent to the giving of the medicine, concluded, on seeing the child and tasting one of the powders, that there had been a mistake in dispensing. Hurrying to the store with the box, he charged the clerk with having made a mistake; this the clerk denied. Returning to the house, he called in one Dr. Thielo for consultation. They concluded the powder was a narcotic and began treatment by injecting into the stomach a strong decoction of coffee, ten ounces at a time, repeating the injection three times in six hours, making, all told, forty ounces. The coffee was injected by pressure on the stomach. At the same time, two hypodermic injections were given, each containing, according to Dr. Thielo, five grains of camphor dissolved in oil. The child died about twelve hours after taking the prescribed powder. The prosecution maintained that death resulted from morphine poisoning, although the medical treatment had been prompt and intelligent. Dr. Mariner was summoned as a witness at the trial and testified that he had analyzed two of the powders and found them to contain 34-100 and 35-100 of a grain of morphine, respectively. Drs. Dall and Thielo testified as above indicated.

The defense denied that the prescription had been incorrectly dispensed, and produced medical experts who testified that the symptoms described by the attending physicians were not conclusive of morphia poisoning, but might indicate numerous other infantile complaints. Messrs. A. E. Ebert and W. F. Henes testified that the tests of Dr. Mariner were crude, defective, and unworthy

of confidence. The fact that a post mortem examination revealed that one of the child's lungs had collapsed, because of the harsh treatment of the physicians, (a fact admitted by the plaintiff,) would in itself furnish a sufficient explanation of the child's death. The defense further maintained that, even admitting the theory of the plaintiff, he was not entitled to pecuniary damage, as he could have suffered none from the death of a child less than half a year old. The law took no account of sympathy or sorrow, but permitted pecuniary damages only when it was evident a pecuniary loss had been sustained.

The legal principles not being statutory, but based on common law maxims, and, therefore, of universal application, are of general interest. We therefore present the instructions of the court to the jury, substantially as submitted:

The court instructs you, for the defendant:

1. That, before the plaintiff can recover in this case, he must show by a preponderance of evidence that the deceased, in his lifetime, or somebody in his behalf, ordered, at the defendant's drug store, calomel, or some harmless medicine; and that the defendant, instead of preparing and delivering the same, as ordered, actually did, by himself or his servant, prepare and deliver to the deceased, or to some one in his behalf, morphine or some other poisonous substance; and on these points you are to bear in mind that the burden of proof is upon the plaintiff; and if you find that the evidence bearing upon these points is

evenly balanced, or that the evidence preponderates in favor of the defendant, then the plaintiff cannot recover and you should find for the defendant.

2. The court further instructs you that before the plaintiff can recover in this case he must also show by a preponderance of evidence, in addition to proving a delivery of morphine or other poisonous substance, as aforesaid, that the same was the cause of the death of the deceased; if you believe from the evidence that the proximate and natural cause of such death was not the taking of morphine or other poisonous substance alleged to have been wrongfully furnished by the defendant, but that such death was proximately and naturally owing to some malady, or to some treatment on the part of physicians with which the defendant had nothing to do, then the plaintiff cannot recover, and you should find for the defendant.

3. The court further instructs you that, should you believe from the evidence that the plaintiff is entitled to recover damages against the defendant, then you are to bear in mind that, in cases of this kind, the law limits the damages simply to a fair and just compensation, with reference to the pecuniary injuries which the evidence may show as resulting from the death of the deceased to his next of kin; and you must not receive the impression that damages can be awarded for mental suffering, bereavement, or anguish experienced by parents and relatives on account of the death of the deceased. Such is not the law. It is your

duty, therefore, to dismiss from your minds all consideration of grief, sorrow and mental affliction of parents and relatives, and also all personal feeling and sympathy which may have been aroused by the recital of the circumstances of the death, and consider only the pecuniary injury, if any, from the evidence you find to be; and to entitle the plaintiff to recover damages for such pecuniary injury, there must be proved by a preponderance of evidence, not only that the defendant was guilty of the wrongful act, neglect or default charged in the plaintiff's declaration, but also that the same was the proximate cause of the death of the deceased.

On the part of the plaintiff the court instructs that: If the jury believe from the evidence that the defendant is guilty of the wrongful act, neglect or default charged in the declaration, and that by reason thereof Israel Lewy died, as charged in said declaration, and that the said Israel Lewy left a father and mother and brothers and sisters who are his next of kin, and that the plaintiff is the administrator of the estate of said deceased, then and in that case the plaintiff is entitled to recover in this action, and the jury should so find by their verdict.

2. If the jury believe from the evidence that the alleged wrongful act, neglect or default of defendant complained of in this case consisted in wrongfully or negligently filling or putting up a prescription with morphine when said prescription called for calomel, and that said prescription was by said defendant handed to one — Jacobs in

the drug store of defendant, and that said Jacobs was then the clerk, employe and agent of said defendant in the filling of prescriptions brought to said store, and that said Jacobs then and there filled or put up said prescription, and that when so filling the same he was acting, in the regular line of his employment, as such clerk, servant and agent of said defendant, then and in that case the act aforesaid of said Jacobs was the act of said defendant, and upon that question the jury should so find.

3. The jury are instructed, as matters of law, that if they shall find from the evidence that Isidor Lewy, who brings this suit as administrator, was the father of said Israel Lewy, deceased, and entitled to his services, and that said deceased was a minor, then and in such case the law presumes there has been a pecuniary loss, for which compensation may be recovered in this action.

4. If the jury further believe from the evidence that the defendant is guilty of the wrongful act, neglect or default charged, and that by reason thereof said Israel Lewy died, as charged in said declaration, and in estimating such pecuniary loss, the jury may properly take into consideration the probable value of the services of the deceased from the time of his death until he would have been twenty-one years of age, deducting therefrom what it would be worth to properly feed, clothe and care for him during that time, so far as the same is shown by the evidence.

5. The jury are further instructed that if, under the evidence and instructions in this case, they shall find the plaintiff entitled to recover, then the jury should assess his damages at such sum as, from the facts and circumstances proved, taken in connection with the knowledge and experience of the jury in relation to matters of common observation, will be a just compensation for the pecuniary loss sustained by the next of kin of said deceased, not exceeding, however, the sum of five thousand dollars, that being the highest sum allowed by law in any case of this kind.

6. The jury are the exclusive judges of the credibility of the witnesses and of the weight to be given to the testimony of each of them in this case, and it is the duty of the jury in determining the weight to be given to the testimony of any witness, to consider the means of knowledge of such witness and his opportunity to know of the fact of which he testifies, so far as the same appears from the evidence; and if his testimony consists only of an opinion based entirely upon a statement of supposed facts contained in a hypothetical question purporting to be framed from the evidence in the case, the jury have the right, and it is their duty, to consider all the evidence and all the facts and circumstances proved on the trial in determining the weight to be given such opinion.

The jury, after deliberating many hours, gave their verdict in favor of the plaintiff, fixing his damages at \$750.

We may add that this verdict was not based upon the damages sustained by the plaintiff through the loss of the child, but, as he was a poor man, it was to reimburse him for funeral expenses and the costs incident to bringing the suit!

CHAPTER III.

CHEMICAL NOMENCLATURE

IN A NUTSHELL.

By analysing the substances of which our earth is composed sixty-three elements have been discovered ; and in after years, when we possess more powerful means of analysis, we may find that some of these "elements" are capable of further division. The elements are usually divided into forty-nine *metals* and fourteen non-metallic substances or metalloids. The metals are opaque, they possess metallic lustre, and are good conductors of electricity and heat. The metalloids either want these properties, or possess them in a very low degree.

For the sake of convenience and shortness in writing symbols are used for the elements. These consist of the *first*, or the first and most characteristic letter of the Latin name of the body. In the following table we have omitted the metals of rare occurrence :

TABLE OF CHEMICAL ELEMENTS, WITH THEIR SYMBOLS AND EQUIVALENT NUMBERS.

ELEMENTS.	SYMBOL.	HYDROGEN 1.		OXYGEN 100.
		Brands.	Turner.	Berzelius.
Aluminum.....	Al.	14	13.7	171.17
Antimony [stibum].....	Sb.	129	64.6	806.45
Arsenic.....	As.	75	37.7	470.04
Barium (Phillips, 68).....	Ba.	69	68.7	856.88
Bismuth.....	Bi.	213	71.	886.92
Boron.....	B.	11	10.9	136.25
Bromine.....	Br.	78	78.4	978.31
Cadmium.....	Cd.	56	58.8	696.77
Calcium.....	Ca.	20	20.5	251.94
Carbon.....	C.	6	6.12	75.40
Cerium.....	Ce.	76	46.	574.70
Chlorine.....	Cl.	36	35.43	444.65
Chromium.....	Cr.	28	28.	351.82
Cobalt.....	Co.	30	29.5	368.99
Colliumbium [Tantalum].....	Ta.	185	185.	2307.43
Copper [Cuprum].....	Cu.	82	81.6	395.70
Fluorine.....	F.	19	18.68	233.80
Glucinum (Phillips, 27).....	G.	5	26.6	331.26
Gold [Aurum].....	Au.	200	199.2	2486.03
Hydrogen.....	H.	1	1.	12.4795
Iodine (Liebig, 127.1).....	I.	126	126.3	1579.50
Iridium.....	Ir.	99	98.8	1233.50
Iron [Ferrum].....	Fe.	23	23.	350.27
Lead [Plumbum].....	Pb.	104	103.6	1294.50
Lithium (Graham, 6.43).....	Li.	7	6.	80.83
Magnesium.....	Mg.	12	12.7	158.35
Manganese.....	Mn.	28	27.7	345.89
Mercury (Phillips, 200).....	Hg.	100	202	1265.82
Molybdenum.....	Mo.	48	47.7	598.52
Nickel (Phillips, 30).....	Ni.	23	39.5	369.63

Nitrogen.....	N.	14	14.15	177.04
Osmium.....	Os.	100	98.7	1244.49
Oxygen.....	O.	8	8.	100.00
Palladium (Phillips, 53).....	Pa.	54	53.3	655.90
Phosphorus (Schröter, 31).....	P.	32	15.7	196.14
Platinum.....	Pl.	99	98.8	1233.50
Phosphorus (Kalium).....	P.	40	39.15	489.92
Rhodium.....	Rh.	52	52.2	651.38
Selenium.....	Se.	40	39.6	494.58
Silicium, or Silicon.....	Si.	15	22.5	277.31
Silver (Argentum).....	Ag.	108	108.	1351.61
Sodium (Natrium).....	Na.	24	23.3	290.90
Strontium.....	Str.	44	43.8	547.29
Sulphur.....	S.	16	16.1	200.80
Tellurium.....	Te.	64	64.2	801.76
Thorium.....	Th.	60	59.6	744.90
Tin (Stannum).....	Sn.	59	57.9	735.20
Titanium.....	Ti.	24	24.3	303.66
Tungsten (Wolfram).....	W.	100	99.7	1246.25
Vanadium.....	V.	68	68.5	856.86
Uranium.....	U.	60	217.	2711.86
Yttrium.....	Y.	32	23.2	402.51
Zinc.....	Zn.	32	32.3	403.23
Zirconium (Phillips, 22).....	Zr.	23	32.7	920.20

In the above table we have in the first column the symbol of the element. In the third column are those of Turner and others who adopt Hydrogen as unity. In the third column we have those of Berzelius and others who adopt Oxygen as unity.

Because hydrogen is the lightest of all known bodies, its atom is taken as the standard, and by careful analyses the comparative weights of all other atoms have been determined. The French take the equivalent of oxygen—100—as their standard.

The *atomic* weight of any element signifies the relation in weight which the atom of that element bears to an atom of hydrogen, and since chemical compounds are formed by the union of atoms, the atomic weight will also represent the weight in which the element will enter into combination. Sometimes one, two or many atoms enter into the compound, so that whatever may be the quantity of the element, it must always be a multiple of the atomic weight; hence it is called the *combining weight*. And it very frequently happens that one element in a compound is replaced by another, one atom taking the place of another, the weight of one atom being equivalent to the weight of the other; hence, the name *equivalent number*. In writing compounds, the symbols of the elements are placed side by side, and the number of atoms, if more than one, written beneath.

Cu O = Copper and oxygen combined to form copper.

$\text{H}_2 \text{O}$ = water; 2 atoms of hydrogen and 1 of O.

2 N H_3 = 2 atoms of ammonia; that is 2 atoms of N and 6 of H.

A *salt* is a compound of an acid, and a *base*.

An acid is a body which usually possesses a sour taste, and will redden litmus paper and vegetable blues. Form-

erly it was supposed to owe its properties to the presence of oxygen, but it has been found that an acid can exist without that gas, but hydrogen must always be present.

An alkali neutralizes an acid and returns the blue color to the reddened litmus. Potash, soda and ammonia are the chief alkalies.

A base is a body which will combine with an acid to form a salt. The alkalies are the strongest bases. A base is generally the oxide of a metal. Salts ending in *ite* consist of a base united to an acid ending in *ous*.

Salts ending in *ate* contain an acid ending in *ic*. Sulphite and phosphite of potash are formed of potash and sulphurous and phosphorous acids, while sulphate and phosphate of potash denote compounds of sulphuric and phosphoric acids united to the same base.

The name of all the salts, of which there are more than 200, denote their composition in the same manner, and thus we know the ingredients of their composition by merely seeing their names.

The term *uret* denotes the union of simple non-metallic bodies, with a metal, a metallic oxide, or with each other.

Oxygen combines with several of the metals in different proportions, but not always sufficient to form acids. The compounds are called *oxides*, and are distinguished from each other by the Greek derivatives, *prot.* *deut.* *trit.* and *per.*

Protoxide signifies the first degree of oxidation.

Deutrooxide signifies the second degree of oxidation.

Trit signifies the third degree of oxidation.

Peroxide signifies the highest degree of oxidation.

When oxygen unites in more than two proportions with any base, the prefix *hypo* is used to denote a less degree of oxygenation than is indicated by *ous*. Example—*Hy-*

posulphurous acid contains less oxygen than *sulphurous*, and *hyposulphuric* less than *sulphuric*.

Oxy denotes a dose of oxygen more than is indicated by *ic*; thus, oxy-chloric acid is stronger than chloric acid.

Sesqui (one and a-half) is used when elements combine in the proportions in one and one-half to one, or as three to two.

Salts may be found by the replacement of the hydrogen in the acids by an atom of metal.

Some metals are capable of replacing 1 atom of hydrogen, some 2, some 3, and others 4. They are said to be respectively *monatomic*, *diatomic*, *triatomic* and *tetratomic*, and the most important may be thus arranged:

Monatomic.

Metals.	{	Potassium, Sodium, Silver.
		<i>Diatomic.</i>
		Barium, Calcium, Copper, Iron, Lead.
		Manganese, Mercury, and Zinc.
		<i>Triatomic.</i>
		Aluminium, Antimony, Arsenic and Gold.

Tetratomic.

Platinum and Tin.

Metalloids.	{	<i>Monatomic.</i>
		Bromine Chlorine, Fluorine, Hydrogen, Iodine.
		<i>Diatomic.</i>
		Oxygen, Selenium, Sulphur, Tellurium.
		<i>Triatomic.</i>
		Boron, Nitrogen, Phosphorus.
		<i>Tetratomic.</i>
		Carbon, Silicon.

If we take for the type of the oxides water H_2O (the oxide of hydrogen), then K_2O is the oxide of potassium or *potash*. To get the oxide of gold, the H must be in a multiple of 3; therefore, take 3 atoms of H_2O : $3H_2O = H_6O_3$. Now gold is triatomic, 1 atom being capable of replacing 3 of H

hence the oxide of gold = Au_2O_3 . Tin is tetratomic; we must, therefore, have the H in 4 atoms, or a multiple of 4; $2\text{H}_2\text{O} = \text{H}_4\text{O}_2$. 1 atom Sn replaces H_4 , hence SnO_2 is the oxide of tin.

The mode of constructing this table will be easily understood, and the student should accustom himself to write the formulas of all the salts of the metals, the simple rule being, take the acid of the required salt, and for its hydrogen substitute the equivalent number of atoms of the metal. The types which are placed at the head of the column are the compounds of hydrogen, in some cases acids.

Oxides. H_2O Water.	Sulphates. H_2SO_4 Sulphuric Acid.	Nitrates. HNO_3 Nitric Acid.	Chlorides. HCl Hydro Chloric Acid.	Chlorates. HClO_3 Chloric Acid.	Sulphides. H_2S Sulphurett'd Hydrogen.
K_2O pot'ash	Na_2SO_4	KNO_3	Ag Cl	K Cl O_3	$\text{Ag}_2 \text{S}$
Cu O	Cu SO_4	$\text{Zn } 2\text{NO}_3$	Fe Cl_2	$\text{Fe } 2\text{Cl O}_3$	$\text{Sb}_2 \text{S}_3$
$\text{As}_2 \text{O}_3$	$\text{Bi}_2 3 \text{SO}_4$	$\text{Au } 3\text{NO}_3$	Au Cl_3	Etc.	Etc.
Sn O_2	$\text{Sn } 2\text{SO}_4$		Pt Cl_4		

Occasionally other terms are used, but their meaning is at once obvious.

Binoxide means an oxide in which are two atoms of oxygen: SnO_2 . In a Sesquioxide, the oxygen is the proportion of $1\frac{1}{2}$ (sesqui). Fe_2O_3 (sesquioxide of iron.)

The mode of naming any of the above given examples is to name the metal, and then the salt:

Cu So = copper sulphate.

$\text{Au } 3\text{NO}_3$ = gold nitrate.

We have attempted in the above chapter to explain briefly, and in a manner easily understood, the groundwork of Chemical Nomenclature, touching, also, on the elementary substances—metals, metalloids, salts, acid, alkali, etc., being requested to do so by many students in the profession.

CHAPTER IV.

PART I.

THE ARITHMETIC OF PHARMACY.

Metric Weights and Measures.

The Metre is the basis of the metric system. It is the one-ten-millionth part of the distance from the pole to the equator. Its English equivalent to 1 yd. is $3 \frac{37}{100}$ in.

The Millimeter (mm) is the one-thousandth part of a meter.

The Centimeter (cm) is the one-hundredth part of the Meter. English equivalent $\frac{39}{100}$ of an in.; 5 cm = 2 in., nearly.

The Kilometer is 1000 Meters = $1.093\frac{1}{2}$ yds., nearly $\frac{5}{8}$ of a mile. It is nearly accurate to say that 8 Kilometers = 5 miles.

Cubic Centimeter, often written "cc" or c cm is the most frequent used scientific measure for small quantities of fluids; it is equivalent to $16\frac{3}{4}$ inches. Four c cm is equal to about 1 fluid drachm.

The Gramme is the weight of a cubic centimeter of water at 4°C. It is equal to $15\frac{43}{100}$ grains.

The Milligramme is the one-thousandth part of a gramme. It is equal to about $\frac{1}{60}$ of a grain.

The Centigramme is the one-hundredth part of a gramme. It is nearly accurate to say that 6 centigrammes=1 grain; that 4 grammes=1 drachm, 60 grs; that 28 grammes=1 oz. avordupois; that $453\frac{1}{2}$ grammes=1 lb avordupois.

The Kilogramme (1000 Grammes)=2 lb 3 oz. 120 gr.

The Litre is the standard for fluid measure, is the measure of a cubic decimetre, the one-tenth of a metre. It is equal to about $1\frac{1}{4}$ pts.

To Estimate the Capacity of a Barrel of Alcohol by Weight.

This is a question of practical application in specific gravity, and like all instances where the difference involved lies between weight and volume, that most important factor, temperature, must not be lost sight of or the calculation will be only approximately correct.

Net weight of Alcohol, 320 lbs.

To this add the difference between sp. gr.

of Alcohol at 60° , and water at the same temperature, which is 18 per cent.

1,000 (minus Alcohol 60°) $.820=18$

$.18 \times 332=59.76$. Multiply by the differ-

ence between pint and pound of water

at 60° , i. e. 291 grs. One pint of 9.291

minus one pound water 7,000 grs.=291

grs. $291 \text{ grs.} \times 391.76=114,000 \text{ grs.}$

Divided by number of grains in one

pint, $7.291=15.65$. Total number of

pints in barrel, 407.41. Dividing by 8,

(number of pints in 1 gallon) we have,

as the capacity of the barrel, $50\frac{9}{10}$ gal.

How to Calculate the Difference in Strength by Measure of the Three Official Preparations of Opium, the Tincture of Opium, Deod. Tincture, and Wine made 10 per cent by Weight of the Drug.

We first find the specific gravity of each preparation:

Tinct. Opium,	sp. gr.,	.955
Deod. Tinct. Opium,	“ “	.985
Wine,	“ “	.990

Then we multiply the weight of 1 pint of water in grains (7.302), the standard of comparison by the specific gravity of the Tinct. of Opium, .955, this gives us the weight of Tincture. Thus, $7.302 \times .955 = 6.973$ weight of 1 pint Tincture. The amount of crude drug being 10 per cent. of its weight or $6.973 \div 10 = 697$ grains divided by 16, equals 43.5 grains of Opium in one fluid ounce. By the same process the strength of the Deodorized Tincture, $7.302 \times .985 = 7.192$. Then, $7.192 \div 10 = 719 \div 16 = 45$ grains in 1 fluid ounce. Again, Wine of Opium, $7.302 \times .990 = 7.228$, and $7.228 \div 10 = 722 \div 16 = 45$ grains Opium. To find the dose of Opium expressed in minims. If we now take the dose of Opium at 1 grain, the doses of these preparations expressed in minims is determined thus:

Admit 480 minims to the ounce.

Then $480 \times 45 = 11$ minims the dose Tinct. of Opium.

$480 \times 45 = 10.66$ minims dose Deod. Tincture.

$480 \times 45 = 10.6$ “ “ Wine.

Rules for the Treatment of Alcohol.

RULE I.

To ascertain the cost of any quantity of Alcohol at any degree or percentage of strength above or below proof.

(It must be remembered that Alcohol is bought and sold at so much above or below proof.)

EXAMPLE.

What will 40 gallons of Alcohol 25 per cent. over proof cost at 28 proof?

We first find 25 per cent. of 40, which is 10; we then add that number to 40, the number of gallons, and we get 50; we then multiply 50 by 28, the price per gallon proof, and get \$14.00, or 35 cents per gallon.

Again, what will 40 gallons of Alcohol 25 per cent. under proof, cost at 28 cents per gallon proof? Again we find that 25 per cent. of 40 is 10; we then deduct 10 from 40; this leaves us 30; by multiplying 30 by 28 we get \$8.40, or 21 cents per gallon.

RULE II.

To ascertain how much water should be added to spirits, to reduce it from a given degree of strength to a lower degree or percentage of strength.

The pharmacist may sometimes find it necessary to reduce or increase the strength of spirit, according as circumstances may require.

To accomplish we give the following rules, which will be found useful.

Multiply the number of gallons by the actual strength of the spirit, and divide the amount by the degree of strength sought to be obtained, and from the answer subtract 100; the amount thus obtained will show the quantity of water to be added to the spirit in order to reduce it to the degree sought.

EXAMPLE.

Suppose you have 100 gallons of spirit at 80°, and wish to reduce to 50° or proof. Multiply 100 by 80, and divide the amount by 50, then from the answer subtract 100; this will show that 60 gallons of water must be added to the spirit in order to reduce it to 50 or proof.

Thus, $100 \times 80 = 8000 \div 50 = 160 - 100 = 60$ gallons.

To ascertain the quantity of pure or absolute Alcohol in any given amount of Liquor. The quantity of Alcohol contained in any amount of Liquor is readily ascertained after testing the strength with Tralle's hydrometer at 60° Fahr. by simply multiplying the figures expressing the quantity of Liquor, by the ascertained strength.

EXAMPLE.

A barrel of Brandy containg 32 gallons 60° strong at 60° Fahr. How many gallons pure Alcohol.

RULE III.

Multiply the number of gallons by the ascertained strength and divide by 100.

Thus, $32 \times 60 = 1920 \div 100 = 19.20$ or $19\frac{1}{5}$ gal.

To ascertain the number of gallons at any required number below proof, in any given number of proof gallons.

RULE IV.

Multiply the given number of proof gallons by 100, and then divide the product thus obtained by a number found in deducting the required number of degrees below proof from 100. The quotient will be the answer.

EXAMPLE.

How many gallons, 25 below proof, are there in 35 gallons proof?

Thus, $100 - 25 = 75$.

Then $35 \times 100 \div 75 = 46\frac{2}{3}$ gallons 25 below proof.

To increase the strength of a spirit from any degree to a higher given degree or percentage:

RULE.

Multiply the number of gallons by the actual degree of strength of the spirit, and divide by the degree of strength sought to be obtained.

EXAMPLE.

Suppose you have 100 gallons of spirit at proof or 50° by Tralle's hydrometer (see thermometer) and wish to increase its strength to 80. Multiply 100 gallons by 50 and divide by 80. The answer will give you the number of gallons of spirit, $62\frac{1}{2}$ to be added to the 100 gallons of spirit in order to increase its volume to 80° by Tralle's hydrometer.

Thus, $100 \times 50 = 5000 \div 80 = 62.4$ or $62\frac{1}{2}$.

To reduce spirit a given number above proof to a required number below proof by the addition of water.

RULE.

Multiply the number of gallons of spirit by the sum of the given degree above proof, and the required degree below proof, and divide the product by a number to be found by subtracting the required proof from 100. The quotient will give the number of gallons of water to be added.

EXAMPLE.

Suppose you want to reduce 40 gallons spirit 20 above proof to 10 below proof, how much water must be added to accomplish the result?

$$\begin{array}{r} \text{Thus, } 100 \left. \begin{array}{l} 10 \\ \hline 90 \end{array} \right\} \text{ required proof } \begin{array}{r} 40 \\ 30 \\ \hline 1200 \end{array}$$

Then $1200 \div 90 = 13\frac{1}{3}$ gals. water + 40 gal. = $53\frac{1}{3}$.

It will thus be seen that to reduce 40 gallons spirit 20 above proof to 10 below proof, it will be necessary to add $13\frac{1}{3}$ gallons of water, making $53\frac{1}{3}$ gallons in all.

To reduce high proof spirit to a required lower proof, by the addition of water:

Suppose you desire to reduce 72 gallons spirit at 30 above proof to 10 above proof, how much water must be added?

Thus, $30 - 10 = 20$ difference.

Then $72 \times 20 = 1440$.

Again $100 \times 10 = 110$. Then $1440 \div 110 = 13\frac{1}{11}$ gals.

Thus it will be seen to reduce 72 gallons spirit at 30 above proof to 10 above proof it is necessary to add $13\frac{1}{11}$ gallons of water.

To reduce spirit of a given number above proof to a required number below proof by the substitution of water for spirit:

EXAMPLE.

Suppose you want to reduce a cask of 40 gallons spirit at 20 above proof to 10 below.

Thus, $100 - 10 = 90$.

Then $90 \times 40 = 3600$. Then $3600 \div 100 + 20 = 30$ gals.

Thus it will be seen that 10 gallons should be removed and their place supplied with water in order to make the mixture equal to 10 degrees below proof.

To reduce spirit of a given number above proof to proof spirit by the substitution of water for spirit:

EXAMPLE.

Suppose you want to reduce a cask of 24 gallons of spirit 20 above proof to proof spirit.

Thus above proof $20 + 100 = 120$.

Then $24 \times 100 \div 120 = 20$.

Original quantity 24. And $24 - 20 = 4$ Ans.

It will be seen that 4 gallons have to be taken from the spirit and the same quantity of water added.

To raise spirit of a given number under proof to a required strength above proof by the substitution of high proof spirit:

EXAMPLE.

Suppose you desire to raise a cask of 40 gallons at 10 below proof to 15 above proof by means of spirit 40 above proof.

Thus, $40 - 15 = 25$ and $40 + 10 = 50$.

Then $40 \times 25 = 1000 :: 50 = 20$

40 gallons original quantity to be raised.

20 deduct quotient.

20 answer.

The above shows that 20 gallons should be taken from the low proof spirit and the same quantity of spirit added at 40 above proof to raise it to 15 above proof.

To raise spirit of a given number below proof to proof spirit by the substitution of high proof spirit:

EXAMPLE.

Suppose you desire to raise a cask of 40 gallons at 5 below proof to proof, by means of spirit 35 above proof.

Thus, $35+5=40$ and $40\times 35=1400$.

And $1400\div 40=35$, and $40-35=5$ Ans.

That is, 5 gallons should be taken from the low proof spirit and the same quantity of spirit added at 35 above proof in order to raise it to proof spirit.

To raise spirit of a given number above proof to a still higher degree of strength by the addition of high proof spirit:

EXAMPLE.

Suppose you desire to raise a cask of 35 gallons spirit 15 above proof to 20 above proof by the addition of spirit 30 above proof.

Thus, $20-15=5$ difference, and $30-15=15$.

Then $35\times 5=175$, and $175\div 15=11\frac{2}{3}$.

How to Find the Strength of a Ten per cent. Tincture in U. S. Weights and Fluid Measure.

It often is a question with students of Pharmacy to understand the modus operandi of getting at an exact arithmetical answer as to number of grains intended to be used of any drug where, say, 10 parts

of the drug is ordered to 100 parts by weight of tincture. When, for example, Tincture of Tolu is to be prepared, 10 parts of Tolu is put into a bottle and 90 parts by weight of Alcohol (94 p. c.) added and the solution effected by maceration. Now, the convenience of knowing how approximately to calculate the quantity of Tolu required for one pint of tincture, before weighing the substances in the proportion 1 to 9, with a vague idea as to the measure of the tincture, can scarcely be overestimated. But aside from this inconvenience such calculations would also be very desirable, as the difference, if any, between the preparations made by the parts by weight system and the old system of weights and measures of the U. S. P. '70 is seen at once when the proportion of medicinal substance in each preparation is compared to a common standard of measure—the pint.

Since the volume is influenced by the specific weight of a liquid, and in view of the fact that the latter is, to some extent, changed in a liquid in which matter is held in solution, it is impossible to calculate, beforehand, exactly the proportion. It is, however, quite possible to estimate *approximately*. This relation, by taking the specific gravity of the liquid used in extraction into consideration, and allowing for the quantity of drug extracted at 1, or its weight equal, when in solution, to one measure of water.

EXAMPLE.

Suppose it is desired to make 1 pint of Tincture of Tolu.

To find how many grains of Tolu: First obtain the weight of 1 pint of the Menstruum, Alcohol (94) by multiplying the specific weight (.820) by the weight of 1 pint of water. Thus, $.820 \times 7.302$ (the number of grains in 1 pint) and we get 5.987.6. To this we next add the difference in specific gravity of the quantity of drug held in solution (which, in this instance, is the whole amount employed) after 10 per cent has been deducted, or 598 grains less 10 per cent.=539, which multiplied by .180, difference between specific gravity of Alcohol and water) is 97; adding 97 to 5.987=6084 grains which should be the weight of finished tincture; 10 per cent. of which gives us 608 grains as the quantity of drug to one pint.

In this formula the weight of a pint of water is taken as the standard, and the weight of one pint menstruum of the tincture is readily obtained by multiplying its percentage weight by that of the water. If there were no increase in the specific weight of the menstruum by the solution of the drug, the proportion of the latter could easily be obtained by simply dividing the weight of the menstruum by the percentage of the drug directed, for example, 5,987.6, divided by 10—598.76 grains in one pint.

This shows but 10 grains less than the theoretical result, and may therefore be regarded sufficiently correct for practical purposes, especially since tincture of tolu is one of the most extreme examples of the whole class of tinctures, owing to its representing 10 per cent. of entirely saluble matter, and the variation must therefore be greater in this instance than in most of the tinctures which do not

contain more than four or five per cent. of extracted matter in solution. In the preliminary estimation of the amount of drug in the pint of alcohol, 10 per cent. is deducted from the sum obtained as 10 per cent. of the weight of the alcohol, because the volume of the liquid would be increased to this extent, which is not counterbalanced by adding the difference in sp. gr. between the alcohol and the drug.—See Lectures National Institute Pharmacy.

Calculation of the Dose of Extracts, upon the Dose of the Crude Drugs.

The percentage of extracts obtained, appended below (Lecture IV., National Institute of Pharmacy) will be found more nearly accurate than any similar published table; from these the *quantity of drugs represented by one grain of extract* (and the *dose* also) may be calculated by dividing the percentage in 100.

PERCENTAGE OF EXTRACTS.

Extractum.	Per cent. of Ex. fr. drg.	Extractum.	Per cent. of Ex. fr. drg.
aconiti.....	20	nucis vomica.....	10
arnicæ radicis.....	22	physostigmatis.....	2.5
belladonæ.....	10	podophylli.....	10
cannabis Indicæ.....	16	rhei.....	35
cinchonæ.....	18	stramonii (seed).....	15
colocynt.....	25	aloes aquos.....	50
conii.....	25	colchici.....	35
digitalis.....	20	gentianæ.....	30
ergotæ.....	20	glycyrrhizæ purum.....	40
euonymi.....	17	haematoxylon.....	25
hyoscyami.....	20	krameria.....	30
iridis.....	15	malti.....	65
jugandis.....	10	opii.....	65
leptandræ.....	10	quassia.....	5
mezerii.....	10	taraxaci.....	50

The dose of a preparation must be based upon the dose of the crude drug, and estimated according to the quantity of drug it represents. It is, therefore, best to learn the dose of the drug itself,

from which the dose of all preparations from it may be easily computed when the strength is known. For example: If the dose of nux vomica be 3 grains, the dose of its preparations would be as follows:

	Quantity drug represented.	Dose grains.
Nux vomica, powder.....	1	2
“ “ abstract.....	2	2½
“ “ extract.....	10	3-10
“ “ “	1	3

In short to learn the dose of an extract, or any other galenic preparation, it is necessary to know: (1) the relation of the preparation to the crude drug; (2) the dose of the crude drug.

The Acids of the Pharmacopœia.

In order to show what changes have been made in this important class, the following table is appended:

	U. S. P., 1880.		U. S. P., 1870.	
	Specific Gravity.	Per cent. Real Acid.	Specific Gravity.	Per cent. Real Acid.
Acid Acetic	1.048	36.0	1.047	36.0
“ “ dilute	1.0083	6.0	1.006	4.5
“ “ glacial	1.056-58	99.0
“ Arsenious	Solid.	97.0	Solid.	100.0
“ Hydrobromic dilute....	1.077	10.0
“ Hydrochloric dilute....	1.049	10.0	1.038	7.8
“ Hydrocyanic dilute....	2.0	2.0
“ Nitric dilute	1.059	10.0	1.068	11.6
“ Oleic	0.800-0.810
“ Phosphoric	1.347	50.0
“ “ dilute.....	1.057	10.0	1.056	9.8
“ Sulphuric	1.840	96.0	1.843	100.0
“ “ dilute	1.067	9.6-10.0	3.082	11.8
“ Sulphurous	1.022	3.5	1.035	6.5

How to Reduce the Morphine of Powdered Opium.

One pound of powdered Opium contains 14.62 per cent. morphine; how much inert powder should be added to bring it to 13 or 12 per cent.

Rule.—Multiply amount of Opium in grains (7000) with the percentage strength (14.62) and divide the product by the percentage desired.

$$7000 \times 14.16$$

$$\text{Thus } \frac{\quad}{12} = 8.528 + \text{grains.}$$

$$\text{Then } 8.528 - 7000 = 1.528 \text{ grains of inert powder.}$$

Rule for Reducing the Strength of Ammonia Water.

To reduce 16 fluid ounces of stronger Ammonia water 28 per cent., or that known as 4 F. 26 per cent. to the officinal Ammonia water. Multiply the number of fluid ounces (16) by the specific gravity (.9078) and this by its percentage strength (.26) divide the product by the specific gravity of the officinal water (.959) multiplied by its percentage strength.

$$16 \times .9078 \times .26$$

$$\text{Thus } \frac{\quad}{.959 \times .0959} = 39.379 \text{ ounces.}$$

Table of Specific Gravity and Volume of Officinal Liquids.

The specific gravity of the various liquids in this table should be memorized. With a knowledge of the specific gravity of any liquid, it becomes an easy matter to calculate the *volume* of any quantity *by weight*, and vice versa. The weight in av. of 100 and of 16 fluid ounces (the latter calculated upon a basis of 7,300 grs. as the weight of one pint of water), is shown in the following table:

LIQUID. TEMP. 15° C. (59° F.)	SPECIFIC GRAVITY.	WEIGHT OF 100 FL. OZ. IN AV. OZ.	WEIGHT OF ONE PINT IN AV.	
			OZ.	GRAINS.
Benzinum.....	.670	69.8	11	78.5
Æther Fortior.....	.725	75.5	12	42.5
Æther.....	.750	78.1	12	225.
Alcohol, at 15° C.....	.820	85.4	13	298.5
Spir. Ætheris Nitrosi.....	.824	85.8	13	327.7
Oleum Terebinthinæ.....	.862	98.8	14	167.6
Oleum Adipis*.....	.900	93.75	15	7.5
Aqua Ammoniæ Fortior.....	.900	93.75	15	7.5
Acid. Oleicum.....	.900	93.75	15	7.5
Spir. Frumenti.....	.920	95.8	15	153.5
Alcohol Dilutum.....	.928	96.7	15	211.9
Spir. Vini Gallici.....	.930	96.9	15	226.5
Aqua Ammoniæ.....	.959	99.9	16	7.0
Aqua Destillata.....	1.000	104.17	16	300.
Vinum Album.....	1.000	104.17	16	300.
Vinum Ruorum.....	1.000	104.17	16	300.
Acid. Aceticum Dil.....	1.008	105.0	16	358.4
Liquor Potassæ.....	1.036	107.9	17	125.3
Acid. Aceticum.....	1.048	109.1	17	212.9
Acid. Hydrochlor. Dil.....	1.049	109.3	17	220.2
Oleum Caryophylli.....	1.050	109.4	17	227.5
Acid. Phosphoricum Dil.....	1.057	110.1	17	278.6
Liquor Sodæ.....	1.059	110.3	17	293.2
Acid. Nitricum Dil.....	1.059	110.3	17	293.2
Acid. Sulphuricum Dil.....	1.067	111.0	17	351.
Acid. Hydrobrom. Dil.....	1.077	112.2	17	424.6
Oleum Sassafras.....	1.091	113.6	18	89.3
Acid. Hydrochloricum.....	1.160	120.8	19	155.5
Liquor Ferri Acet.....	1.160	120.8	19	155.5
Oleum Gaultheriæ.....	1.173	122.2	19	250.4
Acid. Lacticum.....	1.212	126.2	20	97.6
Glycerinum.....	1.250	130.1	20	375.
Carbonei Bisulphidum.....	1.272	132.5	21	98.1
Acid. Hydrobrom., 34%.....	1.303	135.7	21	324.4
Syrupus (Simplex).....	1.310	136.4	21	375.5
Liquor Ferri Tersulph.....	1.320	137.5	22	11.
Mel.....	1.333	138.8	22	105.9
Acid. Phosphoricum.....	1.347	140.3	22	208.1
Liquor Ferri Chloridi.....	1.405	146.4	23	194.
Acid. Nitricum.....	1.420	148.0	23	303.5
Chloroformum venale.....	1.470	153.1	24	231.
Chloroformum purific.....	1.488	155.0	24	362.4
Acid. Sulphuricum.....	1.840	191.7	30	307.

* The equivalents of oils approximate these numbers, their specific gravity being nearly .900. Fixed oils are generally somewhat higher. (ol. olive .916), while ethereal oils are lower (ol. lavandula .890), except those given in this table.

The Thermometer.

In Fahrenheit's Thermometer, which is universally employed in this country and Great Britain, the freezing point of water is placed at 32° , and the boiling point at 212° , and the number of intervening degrees is 180.

The Centigrade thermometer, which has long been used in Sweden under the name of Celsius' thermometer, and is now employed on the continent of Europe generally, marks the freezing point at Zero or 0° , and the boiling point 100° .

In Reaumur's thermometer, used in France before the revolution, the freezing point is Zero, and the boiling point 80° .

Degrees below zero are distinguished by prefixing the minus sign, thus—; so that -170° Fahr. represent a temperature of 17° lower than zero, equivalent to 49 degrees below freezing point.

To Convert Degrees of Centigrade Into Degrees of Fahrenheit.

Multiply the degrees of Centigrade by 9, and divide the result by five:—then add 32.

Thus: to find the degrees of Fahrenheit equivalent to 30 degrees of Centigrade.

$$\begin{array}{r}
 30 \text{ degrees Centigrade.} \\
 \text{Multiplied by } 9 \quad \underline{\hspace{1cm}} \\
 \text{Divided by } 5 \quad \underline{)270} \\
 \hspace{1.5cm} 54 \\
 \text{Add } 32 \quad \underline{\hspace{1cm}} \\
 \text{Answer, } 86 \text{ degrees Fahrenheit.}
 \end{array}$$

To Reduce Degrees of Fahrenheit to the Corresponding Degrees of Centigrade.

Reverse the above process—First deduct 32 from the degrees of Fahrenheit, then multiply the difference by 5, and lastly divide the result by 9.

Thus, 86 degrees Fahrenheit.

Deduct 32

54

Multiplied by 5

Divided by 9)270

Answer. 30 degrees Centigrade.

Table Exhibiting in Degrees of Fahrenheit the Boiling Heat of Different Liquids.

Ether.....	96°
“ sp. grav.: .7365 at 48°.....	100
Carburet of Sulphur.....	113
Alcohol, sp. gr. .813.....	173½
Nitric Acid, sp. gr. 1.42.....	247
Water.....	212
Ammonia.....	140
Muriatic Acid, sp. gr. 1.094.....	232
Rectified Petroleum.....	306
Oil of Turpentine.....	316
Sulphuric Acid, sp. gr. 1.848.....	600
“ “ “ 1.810.....	473
“ “ “ 1.780.....	435
“ “ “ 1.700.....	374
“ “ “ 1.650.....	350
“ “ “ 1.520.....	290
“ “ “ 1.408.....	260
“ “ “ 1.300.....	240

Phosphorus.....	554
Linseed Oil.....	640
Whale Oil.....	630
Mercury.....	662

To Reduce Degrees of Reaumur to the Corresponding Degrees of Fahrenheit.

Multiply the degrees of Reaumur by 9, divide the result by 4, and then add 32.

Thus, 24° Reaumur.

Multiply by 9

Divided by 4)216

54

Add 32

Answer. 86° Fahrenheit.

To Reduce Degrees of Fahrenheit to Corresponding Degrees of Reaumur.

Reverse the above process.

To Reduce Degrees of Reaumur to Centigrade.

Add to the degrees of Reaumur their one-fourth part.

Thus, 40° Reaumur.

Add one-fourth, 10

Answer. 50° Centigrade.

To Reduce Degrees of Centigrade to Reaumur.

Deduct one-fifth part.

Thus, 50° Centigrade.

Deduct one-fifth, 10

Answer. 40° Reaumur.

Table of Corresponding Degrees of Fahrenheit, Reaumur and the Centigrade.

	Fahrenheit.	Reaumur.	Centigrade.
Boiling	212	80	100
	203	76	95
	194	72	90
	185	68	85
	176	64	80
	167	60	75
	158	56	70
	149	52	65
	140	48	60
	131	44	55
	122	40	50
	113	36	45
	104	32	40
	95	28	35
	86	24	30
	77	20	25
	68	16	20
	59	12	15
	50	8	10
	41	4	5
Freezing	32	0	0
	23	— 4	— 5
	14	— 8	— 10
	5	— 12	— 15
	— 4	— 16	— 20
	— 13	— 20	— 25
	— 22	— 24	— 30
	— 31	— 28	— 35
	— 40	— 32	— 40

PART II.

ARITHMETIC OF PHARMACY.

Specific Gravity.

The subject of specific gravity is very essential to the full understanding of chemistry and *pharmacy*, and not very difficult when we know or remember a few simple rules. It is a well known fact that different substances contain different quantities of matter in the same bulk; consequently, in order to compare their densities, we must take some substance as a standard, and compare the weight of all others with this. Now any substance might be chosen for this purpose, the main requisites being that it shall be easily procurable in a state of purity, and easy of manipulation. When, therefore, we speak of the specific gravity of any body, we mean this—the proportion which exists between its weight and that of an equal bulk of distilled water at 60°. The reason why we thus fix a certain temperature, is, that water expands by heat, and therefore a cubic inch of that water weighs less than an equal bulk of cold. The temperature of 60° is chosen merely as a matter of convenience, that being about the average, and therefore involving less trouble. When, then, we say that the specific gravity of mercury is 13.6, we mean that any amount of mercury

weighs 13.6 times as much as an equal bulk of distilled water at 60°. Now the weight of a cubic inch of distilled water is $252\frac{1}{2}$ grains; a cubic inch of mercury, therefore, weighs $252\frac{1}{2} \times 13.6 = 3434$ grains, which is nearly 8 ounces.

Again: Strong sulphuric acid has a specific gravity of 1.850. How much will 6 pounds measure?

A fluid ounce of water weighs 1 ounce avordupois; 6 pounds of water weighs 96 ounces.

But since sulphuric acid is heavier than water in the proportion of 1,850 to 1,000, it will measure proportionately less; hence the following proportion will give us the bulk: As 1,850:1,000::95. In working this out, we shall find that the acid will measure 51.89 ounces.

Specific Gravity of Liquids.—Rule: The weight of the fluids, divided by the weight of an equal bulk of water, gives the specific gravity. Example: A bottle holding 1,000 grains of distilled water, will hold 1,028 of sea water, and 1,845 grains of sulphuric acid.

A sample of nitric acid is before me, of which I am desirous of ascertaining its specific gravity. A small bottle is first placed on the scales, and found to weigh 80 grains. On being filled with acid, it weighed 159 grains. The acid was next emptied out, the bottle rinsed and filled to the same height with water, the weight then being 136 grains. Now, since the bottle weighs 80, we subtract this amount from its weight when filled with the different fluids, and thus see that the water in the bottle weighs 56

grains. We then have the following equation: As 56.79::1. This gives us 1.41, specific gravity of the nitric acid.

I have 12 ounces of aqua ammonia fortior, and wish to prepare water of ammonia U. S. How many pints will it make?

I first find the specific gravity of the stronger ammonia to be .900, and the aqua ammonia U. S. .958. The percentage strength of the first is .28, and of the latter .10. Proceed thus:

$$\frac{12 \times .900 \times .28}{.959 \times .10} = \frac{3.02400}{.0959}$$

Ans.—31.532 fluid ounces.

How many grains of ammonia gas are contained in 2 pints aqua ammonia, U. S.?

The specific gravity of aqua ammonia, U. S., is 959, and its percentage of gas 10%. Then 959×14600 (number of grains in two pints of water) equals 142001 grains, ten per cent. of 14001=1400 + grains of gas.

How many grains of sugar in one ounce of syrup, U. S.?

The specific gravity of the syrup is 1.31. Then 1.31×7300 , grains in a pint, = 9.563, weight of a pint of syrup. Now 65% of this is sugar, or 6.215.9 grains. This, divided by 16 (number of fluid ounces in a pint), = 385.5 grains.

How many grains of Iodide of Iron are contained in one fluid drachm of Syrup Iodid of Iron?

The specific gravity of this syrup is 1.40. Then $1.40 \times 7300 = 10.220$ grains, the weight of a pint. Now 10% of this is Iodide of Iron, or 1.022 grains. This, divided by 128 (the number of fluid drachms in pint,) gives us 8 drachms, nearly.

What is the proportion of strychnine in one fluid drachm of syrup of iron, quinine, and strychnine phosphates, U. S.?

We first find the specific gravity of this syrup to be 1.27. We next multiply the specific gravity by the 7,300 (the number of grains in a pint). Thus $1.27 \times 7300 = 9.271$ grains, weight of 1 pint, and .0004 of which is strychnia, which, multiplied in 9.271, gives us 3.7083, which, divided by 128, = .0289, or about $\frac{1}{4}$ grain.

Suppose we wish to find the amount of crude drug in any tincture—say tincture of cantharides. As before, we first find the specific gravity of tincture of cantharides, and multiply this by 7,300, the number of grains in 1 pint of water. Multiply this product by 0.05 (cantharides), and divide by 128 (drachms in 1 pint), and we have 2.35 grains in 1 fluid drachm. Thus:

$$.823 \times 7300 = 6008 \text{ grains in 1 pint.}$$

$$6008 \times 0.05 = 300 \text{ grains in 1 pint.}$$

$$300 \div 128 = 2.35 \text{ grains in 1 drachm.}$$

Again, let it be the tincture of aconite. The specific gravity is .823. Then $.823 \times 7300 = 6.073$ grs., weight of 1 pint. 40% of this is aconite, or 2429 grains, which, divided by 128 (number of fluid drachms in 1 pint), equals 18.9 grains of aconite in 1 drachm of tincture.

Suppose that we wish to find the number of grains of nitrousether in 1 fluid drachm spirits nitrous ether. We first find the specific gravity of the spirit (8.23), and multiply by 7,300, which we multiply by .05 (the nitrous ether), and divide by 128. Thus:

$$\frac{.823 \times 7300 \times .05}{128} = 2.35 \text{ grains.}$$

It would be well to observe the following rules in connection with what has been written above. They will be found very handy at times:

SPECIFIC VOLUME.

By this we mean a relative bulk or volume compared with an equal weight of water, taken as a standard. It is the reverse of specific gravity. To find the specific gravity of a body, divide its weight by an equal bulk of water. To find the specific VOLUME, we divide the weight of a certain bulk of water by the weight of an equal bulk of the body.

Suppose we wish to find the specific gravity of sulphuric acid. We first find the weight of one fluid ounce in grains, (838.488), and divide by the number of grains in one fluid ounce of water (455.7). The quotient (1.84) will be the specific gravity. But in order to find the SPECIFIC VOLUME, we reverse the above order* of operation. We divide 455.7 by 838.488, and have as a quotient .54347, its specific volume.

To find the specific gravity of nitric acid, we find that 1 ounce weighs 637.094 grains, which, divided by 455.7=1.42 specific gravity. To find its specific volume, we divide 455.7 by 647.094=.7042.

PARTS BY WEIGHT.

The word "parts" is used in the sense of *proportion*. Therefore, any denomination of weight may be used, but must be maintained throughout the formula. In other words, for "*parts*" we can substitute any unit of weight, as grains, ounces or pounds.

Example. Take the officinal formula for Dover's Powder: Pulv. Ipecac, 10 parts; Pulv. Opium, 10 parts; Sugar of Milk, 80 parts—to make 100 parts.

If we substitute drachms instead of parts, the final product would be 100 drachms. Our *proportions* would be equally the same if we had said grains or ounces. Therefore, it can be seen, all that is necessary is to maintain the same denomination throughout the formula, and the work will be correctly done.

But suppose you wanted to put up a prescription composed of liquids and solids. Then, in that instance, weigh both liquids and solids, although the custom is of doubtful utility or practical value, and the arguments for and against tiresome and unprofitable.

In order to procure a definite volume of a tincture from a part by weight formula, the specific gravity of each liquid entering into the compound, as well as of the finished product, must be known.

Example. Suppose I desire to make two pints of tincture of gentian. I proceed thus:

Specific gravity of tincture is 9.36×14.600 , (number of grains in 2 pints)=13.665.

Then .08 of 13.665=1093 grains of gentian.

.04 of 13.665=546 grains of bitter orange peel.

.02 of 13.665=273 grains cardimom.

.75 of 13.665=10.072½ grains alcohol.

PERCENTAGE SOLUTION.

Strictly speaking, a five per cent. solution, say of nitrate of silver, is one containing, for each one hundred parts in weight, five parts of the salt and ninety-five parts of water—*both by weight*. Nitrate of silver being a solid, there can be no question of percentage by volume. In the same manner, a two per cent. solution of strychnia is one containing, in each one hundred grains, two grains of the alkaloid dissolved in ninety-eight grains of the menstruum. Hence for 1 troy ounce of a two per cent. solution of nitrate of silver, nine grains and six-tenths of a grain of the salt should be dissolved in four hundred and seventy grains and four-tenths of a grain of water. A five per cent. solution should consist of twenty-four grains of nitrate of silver, and four hundred and fifty-six grains of water. As to the other sorts of *ounces*, namely, the fluid ounce and the avoirdupois, similar calculations will have to be made on the basis of 455.69 grains for the first, and 437.5 for the second.

The rule is easy. Reduce the ounce, whatever the denomination may be, into *grains*, and multiply it by the rate per cent., and divide the product by 100.

Suppose I desire a five per cent. solution of nitrate of silver. I proceed thus:

1 troy ounce water=480 grains.

Then $480 \times .05 = 2400 \div 100 = 24$ grains.

That is, 24 grains of the salt must be added to 456 grains of water.

CHAPTER V.

PART I.

ELIXIRS.

No. 336.

Elixir Calisaya, Iron, Strychnia and Pepsin.

Fluid Extract of Calisaya Bark,	2 ounces.
Pyrophosphate of Iron,	128 grains.
Hall's solution of Strychnia,	2 ounces.
Saccharated Pepsin,	384 grains.
Hot Water,	1 ounce.
Simple Elixir Q. S. to make	1 pint.

Macerate the Pepsin in the Elixir for twenty-four hours. Dissolve the Iron in the hot water and add a few drops of Aqua Ammonia to clear the mixture. Mix and filter.

Each fluid drachm contains five grains of Calisaya Bark, three grains of Pepsin, one grain of Iron and one-sixty-fourth grain of Strychnia.

Properties.—Tonic. Anti-periodic, Anti-spasmodic.

Uses.—Increases appetite and aids digestion, and is useful in diarrhoea and general prostration.

No. 337.**Elixir Calisaya and Pepsin No 1.**

Powdered Pepsin,	384 grains.
Elixir Calisaya, (detannated)	1 pint.

Dissolve the Pepsin in the Elixir by allowing it to remain twenty-four hours. Filter.

Each fluid drachm contains five grains of Calisaya Bark and three grains of Pepsin.

Properties.—Anti-periodic, Febrifuge and Stomachic.

Uses.—In intermittents, remittents, and as a valuable tonic in dyspepsia.

No. 338.**Elixir Calisaya Bark and Pepsin No. 2.**

Saccharated Pepsin,	384 grains.
Fluid Extract of Calisaya Bark,	2 ounces.
Simple Elixir,	14 “

Macerate the Pepsin in the Elixir for twenty-four hours. Mix and filter.

Each fluid drachm contains three grains of Pepsin and five of Calisaya Bark.

Properties.—Tonic. Anti-malarial, Astringent.

Uses.—In indigestion, dyspepsia, nausea, diarrhoea and malarial fevers.

No. 339.**Calisaya Bark, Bismuth and Pepsin.**

Saccharated Pepsin,	384 grains.
Fluid Extract Calisaya Bark,	2 ounces.
Citrate of Bismuth and Ammonia,	128 grains.
Hot Water,	1 ounce.
Elixir Q. S. to make	1 pint.

Macerate the Pepsin in the Elixir for twenty-four hours. Dissolve the Bismuth in Hot Water, adding a few drops of Aqua Ammonia to clear the mixture. Mix and filter.

Properties.—Tonic, Anti-malarial, Astringent, Anti-spasmodic.

Uses.—Indigestion, dyspepsia, dysentery, and particularly diarrhoea and nausea.

No. 340.

Elixir Calisaya with Phosphates Compound.

Solution of Phosphate of Iron,	$\frac{1}{2}$ ounce.
Solution of Phosphate of Lime,	$\frac{1}{2}$ “
Solution of Phosphoric Acid, (diluted)	$\frac{1}{2}$ “
Fluid Extract of Calisaya,	2 ounces.
Simple Elixir Q. S. to make	1 pint.

Each fluid drachm contains five grains of Calisaya Bark, one-half grain each of the Phosphates of Iron, Lime, and Phosphoric Acid.

Uses.—Highly recommended in phthisis, and in cases of nervous and general debility.

No. 341.

Elixir Calisaya, Iron, Bismuth, and Strychnia with Pepsin.

Fluid Extract Calisaya Bark,	2 ounces.
Pyrophosphate of Iron,	128 grains.
Citrate of Bismuth,	128 “
Strychnia,	2 “
Saccharated Pepsin,	384 “
Simple Elixir Q. S. to make	1 pint.

Dissolve the Iron, Bismuth and Strychnia in three separate vessels by the aid of a little hot water and a few

drops of Aqua Ammonia to the Iron and Bismuth, and a few drops of Citric Acid and Alcohol to the Strychnia. Mix and filter.

Each fluid drachm contains about five grains of Calisaya Bark, one grain each of Bismuth and Iron, three grains of saccharated Pepsin, and one-sixty-fourth grain of Strychnia.

Properties.—A powerful tonic. Anti-spasmodic, Anti-periodic.

Uses.—A good general tonic, and useful where strychnia is indicated, in general prostration, diarrhoea, loss of appetite, hysteria, etc.

No. 342.

Elixir Calisaya Bark, Iron, Bismuth with Extract of Beef.

Extract of Beef,	1 ounce.
Hot Water,	1 “
Elixir Calisaya, Iron and Bismuth,	14 ounces.

Dissolve the Extract of Beef in the hot water, add the Elixir, and filter.

Each fluid drachm contains five grains of Calisaya Bark, and two grains each of Iron and Bismuth.

Properties. — Febrifuge, Astringent, Anti-periodic, Stomachic.

Uses.—Intermittent and remittent fevers, and in diseases attended with deficient action.

No. 343.

Elixir Calisaya Bark, Iron, Strychnia, and Extract of Beef.

Extract of Beef,	1 ounce.
Hot Water,	1 “
Elixir Calisaya Bark, Iron and Strychnia,	14 ounces.

Each fluid drachm contains five grains of *Calisaya* Bark, two of Iron, one-sixty-fourth grain of *Strychnia*, and one-fourth ounce of Beef. Prepare as No. 342, and filter.

Properties.—A very powerful tonic. Astringent, Febrifuge, Anti-periodic and Anti-spasmodic.

Uses.—This Elixir has similar properties and used for the same complaints as Formula No. 342, the *strychnia* however acting as a very powerful stimulant.

No. 344.

Elixir *Calisaya*, Iron and Extract of Beef.

Liebig's Extract of Beef,	1 ounce.
Hot Water,	Q. S.
Pyrophosphate of Iron,	256 grains.
Elixir <i>Calisaya</i> , (detannated) Q. S. to make	1 pint.

Dissolve the Extract of Beef in about one ounce of hot water, and the Pyrophosphate of Iron in about half an ounce. Mix and filter.

The above will be found very beneficial as a tonic, and as an invigorator and strengthening medicine generally.

No. 345.

Elixir Pepsin, *Calisaya* and *Strychnia*.

Saccharated Pepsin,	256 grains.
Hall's Solution of <i>Strychnia</i> ,	2 ounces.
Elixir <i>Calisaya</i> , (see Formulary, p. 36)	14 “

Dissolve the Pepsin in the Elixir. Mix and filter.

Each fluid drachm contains two grains of saccharated Pepsin, one-sixty-fourth grain of *Strychnia*, and about five grains of *Calisaya*.

No. 346.**Elixir Pink Root Compound.**

Pink Root, (Spigelia) in coarse powder,	1280 grains.
Senna in coarse powder,	640 "
Savine leaves,	640 "
Dilute Alcohol,	1 pint.
Sugar,	5 ounces.
Prepared flavoring,	1 "

Percolate the powders with the dilute Alcohol until thirteen ounces are obtained, then add the sugar and prepared flavoring. Filter.

Each fluid drachm contains ten grains of Spigelia Root, and five grains each of Senna and Savine.

No. 347.**Elixir Chloral Hydrate Compound.**

Chloral Hydrate,	640 grains.
Bromide of Potassium,	256 "
Tincture of Valerian,	2 ounces.
Oil of Cinnamon,	10 drops.
Simple Elixir,	1 pint.

Dissolve the Chloral Hydrate and the Bromide in the Elixir. Mix and filter.

This Elixir will be found very valuable to produce sleep.

No. 348.**Elixir Rhubarb, Columbo and Iron.**

Rhubarb in coarse powder,	640 grains.
Columbo in coarse powder,	640 "
Pyrophosphate of Iron,	128 "
Warm Water,	1 ounce.
Sugar,	6 ounces.
Citric Acid,	Q. S.
Diluted Alcohol,	14 ounces.
Prepared flavoring,	1 ounce.

Percolate the powders with the percolating menstruum until fourteen ounces are obtained. Remove the Tannin with Q. S. Albumen and Citric Acid, then add the Sugar and Prepared Flavoring, and finally add the Iron, previously dissolved in hot water, and filter.

The above makes a very beautiful Elixir, and if properly manipulated will give satisfaction.

No. 349.**Elixir Strychnia.**

Sulphate of Strychnia,	4 grains.
Simple Elixir,	1 pint.

Dissolve the Strychnia in two ounces of hot water in which about five grains of Citric Acid has been previously dissolved. Mix and filter.

Each fluid drachm contains one thirty-second of a grain of Strychnia.

The above Elixir has been found useful in pyrosis, passive diarrhœa, and in cases of partial paralysis.

No. 350.**Elixir Rhubarb and Magnesia No. 1.**

Rhubarb,	4 ounces.
Cinnamon,	30 grains.
Diluted Alcohol,	1 pint.
Fluid Magnesia,	1 “
Syrup of Peppermint,	4 ounces.

Macerate the drugs in the Alcohol, express and filter.

No. 351.**Elixir Rhubarb and Magnesia No. 2.**

Carbonate of Magnesia,	3 drachms.
Citric Acid,	4 “
Simple Elixir,	1 ounce.
Elixir Rhubarb and Magnesia No. 1,	15 ounces.

Rub the Carbonate of Magnesia with one ounce of Elixir, and having previously dissolved the Citric Acid in a portion of the Elixir, add it gradually to the Carbonate of Magnesia. After it has ceased effervescing, add the Elixir of Rhubarb No. 1, and filter.

The above are excellent remedies in dyspepsia, debility of the intestines, flatulent colic, diarrhoea, etc.

No. 352.**Elixir Squills Compound.**

Squills in coarse powder,	640 grains.
Senega, “ “ “	640 “
Tartrate of Antimon et Potass,	16 “
Dilute Alcohol,	15 ounces.
Sugar,	5 “
Prepared flavoring,	1 ounce.

Percolate the powdered drugs with the Dilute Alcohol until thirteen ounces are obtained. Dissolve the Tartrate of Antimony and Potassium in the filtrate by rubbing in a mortar, then add the sugar and flavoring.

Filter.

The above is an excellent remedy in pulmonary complaints after the inflammatory action is reduced. It is also useful in Asthma, Pertussis and Dropsy.

No. 353.**Elixir Hydrastia and Bismuth.**

Hydrastia,	64 grains.
Citrate Bismuth and Ammonia,	256 “
Simple Elixir to make,	1 pint.

Dissolve the Hydrastia in the Elixir, and the Bismuth in a portion of warm water, let stand a short time, add the Elixir and filter.

No. 354.**Elixir of Senna Compound No. 2.**

Senna in coarse powder,	1½ ounces.
Caraway Seeds,	105 grains.
Cardamome Seeds,	30 grains
Uva Ursi,	2½ ounces.
Diluted Alcohol,	15 “
Sugar,	5 “
Prepared Flavoring,	1 ounce.

Percolate the powders with the Alcohol until thirteen ounces are obtained, then add the Sugar and prepared flavoring. Filter.

The above is the same strength as the Compound Syrup of Senna of the English, Edinburgh and London Pharmacopœias.

No. 355.**Elixir Donovan's Solution.**

Donovan's Solution,	1 ounce.
Simple Elixir Q. S. to make,	1 pint.

Dose, one-half to one teaspoonful one hour after meals.

Used in Chronic diseases of the skin of a scaly character and venereal affections.

No. 356.**Elixir Ingluvin.**

Ingluvin,	1 ounce.
Alcohol,	2 ounces.
Aqua,	4 “
Simple Elixir Q. S. to make,	12 “

Macerate the Ingluvin in the Alcohol for twenty-four hours. Agitate. Put in water bath and allow it to simmer one hour at a temperature of 100°. Next add the water, and again allow to simmer for half an hour, at an increased temperature of 150°. Lastly, filter and add the Simple Elixir.

B. F. Hutchinson,
Mankato, Minn.

No. 357.**Elixir Caffeine and Iron.**

Citrate of Caffeine,	64 grains.
Pyrophosphate of Iron,	256 “
Simple Elixir Q. S. to make	1 pint.

Dissolve the Caffeine in a portion of the Elixir and the Pyrophosphate of Iron in about two ounces of hot water. Mix and filter.

Each fluid drachm contains one-half grain of Citrate of Caffeine and two grains of the Pyrophosphate of Iron. Dose, one teaspoonful.

No. 358.**Elixir Caffeine, Iron and Arsenic.**

Take Fowler's Solution,	1½ fl. ounces.
Elixir Caffeine and Iron,	15 ounces.

Each fluid drachm will contain about five drops of Fowler's Solution, half a grain of Caffeine, and two grains of Pyrophosphate of Iron. Dose, one teaspoonful.

No. 359.**Elixir Caffeine, Bismuth and Strychnia.**

Citrate of Caffeine,	64 grains.
Citrate of Bismuth and Ammonia,	256 “
Hall's Solution of Strychnia,	2 ounces.
Simple Elixir Q. S. to make,	1 pint.

Dissolve the Citrate of Caffeine in a portion of the Elixir, and the Bismuth in a small portion of water, with a drop or two of Water of Ammonia. Mix and filter.

Each fluid drachm contains half a grain of Citrate of Caffeine, two grains of Bismuth, and one-sixty-fourth grain of Strychnia.

No. 360.**Elixir Caffeine, Quinine and Arsenic.**

Citrate of Caffeine,	64 grains.
Sulph. of Quinine,	128 “
Citric Acid,	10 “
Fowler's Solution,	1½ fl. ounces.
Simple Elixir Q. S. to make,	1 pint.

Rub the Quinine with a part of the Elixir; then add the Citric Acid after being dissolved. Triturate the Citrate of Caffeine in the Elixir. Mix and let stand until the solution is perfectly clear, and lastly add Fowler's Solution and filter.

Each fluid drachm contains one-half grain of Citrate of Caffeine, one grain of Quinine and five drops of Fowler's Solution of Arsenic.

No. 361.**Elixir Senna Compound No. 1.**

Senna in coarse powder,	$2\frac{2}{3}$ ounces.
Rhubarb,	$1\frac{1}{2}$ “
Mandrake,	256 grains.
Jalap,	256 “
Dilute Alcohol,	15 ounces.
Sugar,	5 “
Prepared flavoring,	1 ounce.

Percolate the powders with the Alcohol until thirteen ounces are obtained, then add the sugar and prepared flavoring. Filter.

Elixir Chloroform—Useful in Colic.

Rx. Chloroform.

Tinct. Opii.

Tinct. Camphoris.

Spir. Ammon. Aro.....aa. oz. iss.

Oil Cinnamon.....gtt. xx.

Brandy.....oz ij.—M.

Sig.—Half a fluid drachm, more or less.

PART II.

ELIXIRS.

Weyth's Beef, Wine and Iron.

Extract Beef (Liebig),	240 grains.
Citrate Iron and Ammonium,	256 “
Water,	1½ ounces.
Port Wine,	3 ounces.
Sherry Wine enough to make	16 fl. ounces.
Spirits Orange,	1 fl. ounce.

Manipulation: Use $\frac{1}{4}$ ounce alcohol to 1 pint of wine; the wine should be detannated by mixing with it 2 ounces of warm boiled milk to each 1 gallon of wine.

McDade's Succus Alterans.

Fluid Extract Sarsaparilla,	} Each 2 ounces.
Fluid Extract Stillingia,	
Fluid Extract Burdock,	
Fluid Extract Poke Root,	
Tincture Prickley Ash,	1 ounce.

Aromatic Elixir for one pint. Mix.

Elixir of Coto Bark.

Fluid Extract Coto Bark,	6 drachms.
Simple Elixir,	2 pints.
Mix.	

Compound Elixir of Corydalis.

(D. C.)

Alcohol,	4 ounces.
Fluid Extract Corydalis,	2 “
Fluid Extract Stillingia,	2 “
Fluid Extract Xanthoxylum,	1 “
Fluid Extract Iris Versicolor,	3 “
Iodide of Potassium,	1½ “
Simple Elixir,	2 pints.

Elixir of Coto Leaves.

(R. W. GARDNER.)

Fluid Ext. of Coco,	6¾ ounces.
Alcohol,	5 “
Glycerine,	1½ “
Simple Elixir,	1½ “
Sherry Wine,	2 “
Solution of Soda,	1 drachm.
Simple Elixir, to make,	2 pints.

Wine of Pepsin Elixir.

Saccharated Pepsin,	1 ounce.
Simple Syrup,	4 ounces.
Fluid Extract Ginger,	15 drops.
Sherry Wine,	30 ounces.

Mix the Pepsin with the Wine, then add the fluid Extract of Ginger, previously mixed with the Syrup. Filter after some hours.

Elixir Wahoo.

Fl. Ext. Euonymus Atropurpureus,	6¾ ozs.
Compound Elixir Taraxacum,	25½ “
Mix.	

Compound Elixir of Dewberry Root.

Dewberry Root,	3½ ounces.
Galls, .	150 grains.
Kino,	150 “
Cinnamon,	5 “
Cloves,	35 “
Capsicum,	7½ “
Tincture of Opium,	1 ounce.
Spirits of Peppermint,	75 drops.
Sugar,	10 ounces.
Brandy,	24 “
Dil. Alcohol, q. s. to make,	2 pints.

Elixir Rhubarb and Columbo.

Solution of Ferric Sulphate

with Citrate of Iron,	1½ ounces.
Fluid Ext. of Columbo,	1⅔ “
Fluid Ext. of Rhubarb,	1⅔ “
Fluid Ext. of Ginger,	1½ drachms.
Simple Elixir, q. s. to make,	2 pints.

Compound Elixir of Tar.

(D. O.)

Sulphate of Morphia,	15 grains.
Elixir of Wild Cherry,	5 ounces.
Syrup of Tolu,	6⅔ “
Rectified Wood Naphtha,	1½ “
Wine of Tar, q. s. to make,	2 pints.

Mix.

Elixir of Bromide Potassium, Sodium and Ammonium.

Bromide of Potassium,	2 troy ounces.
Bromide of Sodium,	1½ “
Bromide of Ammonium,	1½ “
Simple Elixir,	2 pints.

An Elegant Elixir of Licorice.

Licorice root, bruised,	6 ounces.
Pulverized Anise Seed,	4 drachms.
Pulverized Caraway Seed,	4 “
Pulverized Cinnamon,	4 “
Pulverized Cloves,	2 “
Nutmeg, the half of one.	
Oil of Orange,	30 minims.
Extract of Vanilla,	4 drachms.
Water,	24 ounces.
Alcohol,	8 “
Sugar sufficient.	

Mix the powders, and having moistened them with four fluid ounces of diluted alcohol, pack them in a suitable percolator; then dissolve the oil of orange in the alcohol and mix with the water, and pour it upon the powders, and continue the percolation with diluted alcohol until thirty-two ounces have been obtained. Then add the vanilla and one pound of sugar, or more if necessary, and filter through paper; or filter the mixture and then add the sugar, and dissolve with a gentle heat and strain. This makes a very strong, aromatic elixir, which is not only valuable as a vehicle for quinine, but all other disagreeable medicines.

PART III.

ELIXIRS.

No. 303.

Elixir Salicin.

Salicin,	384 grains.
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Simple Elixir to make	1 pint.
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Dissolve the Salicin in a little hot water, mix and filter.

Each teaspoonful contains three grains of Salicin.

Dose, teaspoonful.

No. 304.

Daffy's Elixir.

Jalap	$\frac{1}{2}$ ounce.
Senna,	$2\frac{1}{2}$ ounces.
Coriander Seed,	2 drachms.
Anise “	2 “
Alcohol,	Q. S.
Liquorice Root,	2 drachms.
Elecampane Root,	2 “
Simple Elixir to make	1 pint.

Digest the drugs with the Alcohol for one week and transfer to a percolator, when six ounces of the percolate is obtained, add Simple Elixir, and filter.

No. 305.**Radcliff's Elixir.**

Aloes,	4	drachms.
Cinnamon,	$\frac{1}{2}$	drachm.
Zedoary,	$\frac{1}{2}$	"
Cochineal,	$\frac{1}{2}$	"
Rhubarb,	1	"
Alcohol,	Q.	S.
Simple Elixir to make	1	pint.

Digest the drugs with the Alcohol for one week, and transfer to percolator, when six ounces of the percolate is obtained, add Simple Elixir.

No. 306.**Elixir of Roses.**

Cloves, (pulverized)	$\frac{1}{2}$	drachm.
Cinnamon, "	1	ounce.
Ginger, "	1	"
Alcohol,	Q.	S.
Oil of Orange,	$\frac{1}{2}$	drachm.
Oil of Rose,	10	drops.
Essence of Peppermint,	$\frac{1}{2}$	ounce.
Simple Elixir to make	1	pint.

Proceed as in No. 305.

No. 307.**Elixir of Gentian.**

Fluid Extract Gentian,	2	ounces.
Simple Elixir to make,	1	pint.

Mix and filter. Dose one teaspoonful.

No. 308.**Pectoral Elixir.**

Balsam Tolu,	$\frac{1}{2}$ ounce.
Benzoin,	6 drachms.
Saffron,	2 drachm
Alcohol,	4 ounces.

Simple Elixir to make one pint.

Digest the drugs with Alcohol till four ounces of percolate is obtained, add Simple Elixir and filter.

No. 309.**Elixir Pepsin and Morphia.**

Sulph Morphia,	16 grains.
Saccharated Pepsin	640 “
Simple Elixir to make	1 pint.

Mix.

Dissolve Pepsin in two ounces of hot acidulated water.

Each fluid drachm contains one-eighth grain of Morphia and five grains Sacch. Pepsin.

No. 310.**Elixir of Berberine and Iron.**

Pyrophosphate of Iron,	64 grains.
Phosphate of Berberine,	128 grains.
Hot Water,	2 ounces.
Simple Elixir to make	1 pint.

Dissolve Iron and Berberine in hot water, add Simple Elixir and filter. Each fluid drachm contains one-half grain Pyrophosphate of Iron and one grain Phosphate of Berberine.

Dose one-half to teaspoonful.

No. 311.**Elixir Bromide of Chloral.**

Bromide Potassium, 2 ounces and 64 grains.
Hydrate Chloral, 1 ounce and 32 grains.
Simple Elixir to make 1 pint.

Mix.

Dissolve salts in Elixir, and filter.

Each fluid drachm contains eight grains Bromide Potassium and four grains Hydrate of Chloral.

Dose, one teaspoonful.

No. 312.**Elixir of Quinquina.**

Quinquina, 128 grains.
Citric Acid, 64 "
Water, 2 ounces.
Simple Elixir to make 1 pint.

Dissolve the Citric Acid in the water and in it the Quinquina; should it not dissolve add a small portion of Acetic Acid, then add Simple Elixir, and filter.

Dose, one teaspoonful.

Each fluid drachm contains one grain of Quinquina.

No. 313.**Elixir of Gentian and Bismuth.**

Fluid Extract of Gentian, 1½ ounce.
Elixir Citrate of Bismuth and Ammonia, 4 ounces.
Simple Elixir to make, 1 pint.

Mix and filter.

Dose, one to two teaspoonful.

No. 314.**Elixir Benzoin Comp.**

Pulverized Squill,	3 ounces.
“ Orris,	3 “
“ Elecampane,	3 “
“ Benzoin,	120 grains,
“ Liquorice,	80 “
“ Anise Seed,	80 “
“ Myrrh,	80 “
“ Saffron,	18 “

Diluted Alcohol, Q. S.

Simple Elixir Q. S., to make, 1 pint.

Macerate drugs with diluted Alcohol till eight ounces of percolate is obtained, then add Elixir and filter.

Use in Catarrh and Asthma.

Dose, one teaspoonful.

No. 315.**Compound Elixir of Senna.**

Extract of Senna, (solid)	6 drachms.
Extract of Aloes,	6 “
Carbonate of Soda (Crystals),	1 drachm.
Anise Seed,	1 “
Caraway Seed,	1 “
Cardamom Seed,	1 “
Simple Syrup,	4 ounces.
Alcohol,	Q. S.
Simple Elixir to make,	1 pint.

Macerate the drugs with Alcohol and percolate till six ounces are obtained, add Simple Elixir and filter. Dose one ~~teaspoonful~~ teaspoonful.

No. 316.**Tonic Elixir.**

Wild Ginger,	1 drachm.
Mandrake Root,	2 drachms.
Virginia Snake Root,	3 “
Angelica Root,	2 “
Prickly Ash Berries,	1 drachm.
Hydrastis Root,	2 drachms.
Columbo Root,	3 “
Gentian Root,	2 “
Wahoo Bark,	2 “
Tamarac Bark,	2 “
Buchu Leaves,	4 “
Dandelion Root,	3 “
Alcohol,	Q. S.
Water,	Q. S.
Simple Elixir to make	1 pint.

Reduce drugs to moderately coarse powder, macerate with Alcohol and water; percolate till you have six ounces of the percolate, add the Simple Elixir and filter.

This will be found a pleasant Medicinal tonic, appetizer and aperient.

Dose, one-half tablespoonful before each meal, in Jaundice, in fever and ague, and as a Tonic for Females two or three times a day.

Its use is indicated in Dyspepsia, Indigestion, Torpid Liver, Constipation, in Skin Diseases, Bilious Headache, and to give tone and strength to the System.

No. 317.**Lefandiniere's Elixir.**

Rasped Guaiacum wood,	$\frac{1}{2}$ ounce.
Cloves,	$\frac{1}{2}$ ounce.
Pellitory,	1 drachm.
Nutmeg,	1 drachm.
Oil Rosemary,	10 drops.
Oil Bergamot,	4 drops.
Alcohol,	Q. S.
Simple Elixir to make	1 pint.

Proceed as in No. 305.

No. 318.**Rheumatic Elixir.**

Salicylate of Soda,	6 drachms
Fluid Extract Black Cohosh,	$1\frac{1}{4}$ ounces.
Fluid Extract Colchicum Seed,	$\frac{1}{2}$ ounce.
Acetate Potassium,	$1\frac{1}{2}$ ounces,
Comp. Tincture Cardamom,	1 ounce.
Simple Elixir to make	1 pint.

Mix and filter.
Dose, one teaspoonful.

No. 319.**Elixir of Bromides.**

Take Bromide of Potass,	600 grains.
“ “ “ Soda,	380 “
“ “ “ Ammonia,	300 “
Simple Elixir to make,	1 pint

Mix and filter.

Each Fluid drachm contains ten grains of the Bromides

No. 320.**Elixir of Wild Cherry with Pyrophosphate of Iron.**

Pyrophosphate of Iron,	5 drachms.
Fluid Extract Wild Cherry,	3 ounces.
Simple Elixir to make,	1 pint.
Boiling Water	Q. S.

Dissolve Iron in Boiling Water, add it to the other ingredients and filter. Dose one teaspoonful.

No. 321.**Elixir of Sumbul.**

Fluid Extract Sumbul,	1 ounce.
Alcohol,	2 ounces.
Elixir of Valerianate of Ammonia,	8 ounces.
Simple Elixir to make,	1 pint.

Mix.

Dose, one to two Teaspoonfuls.

No. 322.**Radcliff's Elixir No. 2.**

Soc. Aloes,	3 drachms.
Rhubarb,	$\frac{1}{2}$ drachm.
Cinnamon,	$\frac{1}{4}$ "
Cochineal,	$\frac{1}{4}$ "
Zedoary,	$\frac{1}{2}$ "
Syrup of Buckthorn,	2 ounces.
Alcohol,	Q. S.
Simple Elixir to make	1 pint.

Macerate the drugs with Alcohol, and percolate till six ounces are obtained, add Simple Elixir and filter.

No. 325.

Compound Aromatic Elixir Liquorice.

Cinnamon,	6 drachms.
Star Anise,	4 “
Coriander,	7 “
Caraway,	7 “
Tonka,	4 “
Canella,	2 “
Nutmeg,	2 “
Cloves,	2 “
Ammonical Glycyrrhiza,	40 “
Oil Sweet Orange,	2 “
Alcohol,	532 “
Syrup,	1000 “
Water,	475 “

Reduce the Aromatics to a fine powder and percolate with the Alcohol in which the Oil of Orange has been previously dissolved till one thousand parts of percolate are obtained. Next dissolve the Ammoniated Glycyrrhiza in a sufficient quantity of Hot Water, and add to the percolate already obtained, finally add syrup.

Dissolve Ammo., Glycyrrhiza in q. s. boiling water, and add to the rest after mixing with the Syrup. If an agreeable Simple Elixir is at hand, the Ammonical Glycyrrhiza may be dissolved in the proportion of one part to fifty parts of Simple Elixir.

Prof. J. Remington,

Philadelphia.

No. 323.**Elixir Hypophosphate of Iron and Quinine.**

Take Muriate of Quinine,	128 grains.
“ Hypophosphate of Iron,	32 “
Simple Elixir to make,	1 pint.

Dissolve the salts by rubbing with a portion of the Elixir in a mortar, add the remainder of the Elixir and filter.

No. 324.**Elixir of Coffee and Coca.**

Take Coffee (roasted),	10 ounces.
“ Alcohol,	3 “
Extract of Coca,	2 “
Hot Water,	Q. S.
Simple Elixir to make,	1 pint.

Grind the Coffee and macerate for two days with the Alcohol and a sufficient quantity of hot Water to thoroughly moisten the Coffee, then transfer to a percolator and pass a sufficiency of hot water so as to obtain eight ounces.

Add Simple Elixir and filter.

PART IV.

ELIXIRS.

At the meeting of the American Pharmaceutical Association, Mr. R. W. Gardner, of New York, read a paper on "Elixirs." in which he makes the following remarks: In preparing elixirs containing alkaloids, the alcoholic flavored vehicle is first made, reserving a portion of the alcohol. The citric acid is then dissolved in sufficient water, the alkaloids are added, stirred until dissolved, and then added, under stirring, to the elixir.

In preparing elixirs of pepsin *in combination with* bismuth, Boudault's pepsin has been found preferable to that prepared by Schefer's process, as the latter contains some chloride of sodium and hydrochloric acid, which decompose the bismuth salt. These bismuth and pepsin elixirs must be made *exactly* neutral. In all elixirs containing alkaloids or their salts, citric acid is to be added in small proportions, but this must be again completely neutralized, upon the completion of the preparation, by ammonia, if any iron or bismuth salts are present at the same time. If the acid is omitted, the alkaloids and

their salts will gradually separate, and if the elixir of pyrophosphate of iron is left acid, the iron salt is decomposed.

No. 325.

Elixir Phosphate of Iron, Quinine and Strychnia.

Hall's Solution of Strychnia, 2 ounces.

Elixir Phosphate of Iron and Quinine to make 1 Pint.

Mix and filter

Each fluid drachm contains one grain of Iron, half grain of Quinine and one sixty-fourth grain of Strychnia.

No. 326.

Elixir Phosphate of Iron and Quinine.

Sulphate of Quinine, 64 grains.

Solution Phosphoric Acid, $\frac{1}{2}$ ounce.

Solution Phosphate of Iron, 1 "

Elixir, 1 pint.

Dissolve the Quinine in the Solution of Phosphoric Acid, add the solution of Iron to the Elixir, mix the solution, and filter.

Each fluid drachm contains one grain of Iron and one-half grain of Quinine, with an excess of Phosphoric Acid.

No. 327.

Emmenagogue Elixir.

Fluid Ext. Cotton Root, 4 ounces.

" " Ergot, 4 "

Simple Elixir to make, 1 pint.

Mix.

Dose one to two teaspoonfuls.

No. 328.**Elixir of Quinquinia.**

Oil of Orange,	8 drops.
Oil of Cinnamon (Ceylon),	2 “
Alcohol,	4 ounces.
Syrup, Simple,	6 ounces.
Water to Make,	16 ounces.
Quinquinia,	128 grains.
Citric Acid,	90 “

Make a solution of the Citric Acid in two ounces of the water, in which dissolve the Quinquinia; then add the Syrup with the Oil, the latter previously mixed with the Alcohol. Finally add water until the whole measures 16 fluid ounces, then filter.

No. 329.**Elixir Sudorific.**

Skunk Cabbage,	1 ounce.
Lady's Slipper,	$\frac{1}{2}$ “
Virginia Snake Root,	2 drachms.
Ipecac,	2 “
Saffron,	2 “
Opium Pulverized,	1 “
Camphor Gum,	2 “
Alcohol Diluted,	Q. S.
Simple Elixir to make,	1 pint.

Macerate drugs in diluted Alcohol for a few days, then put in percolator and percolate until eight ounces of percolate is obtained. Add simple Elixir and filter.

Dose, 1 to 2 teaspoonfuls.

Use, to lessen pain, produce sleep, allay nervous excitability, and keep up a determination to the Skin, aided by warm infusions and bathing the feet will produce copious perspiration.

No. 330.

Elixir Antacid Compound.

Bicarbonate Soda,	1½ ounces.
Infusion Gentian,	4 ounces.
Aqua Peppermint,	4 ounces.
Tincture Cardamom Compound,	½ ounce.
Simple Elixir to make	1 pint.

Mix and filter.

Dose, tea to tablespoonful as an antacid corrective in indigestion.

No. 331.

Stock Solution for Simple Elixir.

Oil Orange,	½ drachm.
“ Coriander,	15 drops.
“ Cassia,	15 drops.
“ Caraway,	5 drops.
“ Anise,	10 drops.
“ Nutmegs,	5 drops.
Alcohol,	2½ ounces.

Mix.

To make Simple Elixir with the above, use

Stock Solution,	1 drachm.
Alcohol,	4 ounces.
Water,	10½ ounces.
Sugar,	3 ounces.
Carbonate Magnesia,	Q. S.

Rub the Solution with the Magnesia, add the Alcohol and water, previously mixed, and filter. Put the Sugar in a percolator, add the liquids and dissolve by percolation.

No. 332.

Pectoral Elixir.

Pulverized Licorice,	$\frac{1}{2}$ ounce.
“ Gum Arabic,	$\frac{1}{2}$ ounce.
Tincture Opium Camp.,	2 ounces.
Wine Antimony,	1 ounce.
Sweet Spirits Nitre,	2 ounces.
Water,	4 ounces.
Fluid Extract Wild Cherry,	1 ounce.
Simple Elixir, to make	1 pint.

Rub Licorice and Gum Arabic with water, gradually add other ingredients, and pass through absorbent cotton.

Dose, 1 teaspoonful as a Cough Mixture every 3 or 4 hours.

No. 333.

Elixir Morphia and Camphor.

Sulphate Morphia,	16 grains.
Aqua Camphor,	8 ounces.
Simple Elixir,	8 “

Dissolve Morphia in Aqua Camphor, add Simple Elixir and filter.

Dose, 1 teaspoonful containing one eighth of a grain of Sulphate Morphia. Useful in obstetric practice for after-pains, etc.

No. 334.**Elixir Cascara Sagrada Compound.**

Fluid Extract Cascara,	4 ounces.
Tincture Nux Vomica,	1 drachm.
Glycerine,	2 ounces.
Syrup Ginger,	2 “
Peppermint Water,	4 “
Simple Elixir to make	1 pint.
Mix and filter.	

Dose.—One teaspoonful before eating.

For Headache, Biliousness, Dyspepsia, or all diseases arising from torpidity of the Liver.

No. 335.**Elixir Lavender Compound.**

Tincture Lavender Compound,	4 ounces.
Tincture Camphor,	1½ “
Hoffmann's Anodyne,	2 “
Fluid Ext. Jamaica Dogwood,	½ ounce.
Simple Elixir to make	1 pint.
Mix and filter.	

Dose.—One teaspoonful. Useful to allay nausea and to relieve pain.

CHAPTER VI.

PART I.

TINCTURES.

An Elegant Compound-Tincture of Cardamom.

Cardamom,	4 parts.	} No. 50 Powder.
Cinnamon,	4 "	
Caraway,	2 "	
Cochineal,	1 part.	
Alcohol,	133 parts.	} To be mixed in this proportion.
Glycerine,	12 "	
Water,	44 "	

To make 200 "

Mix the solid ingredients, powder them together, and pass through a No. 50 sieve. Moisten the mixture with half an ounce, or sufficient of the menstruum to pack in a cylindrical percolator, gradually pour the remainder of the menstruum upon it, afterwards diluted alcohol, to obtain 200 parts in weight.

Sweet Tincture Rhubarb.

Rhubarb, No. 40 powder,	2 ounces.
Licorice root, No. 40 powder,	1 ounce.
Anise, No. 40 powder,	1 "
Cardamom, No. 40 powder,	75 grains.
Dil. Alcohol, q. s. to make	34 ounces.

Percolate.

Tincture of Hydrastis.

Hydrastis, No. 50 powder,	6 $\frac{2}{3}$ ounces.
Alcohol,	22 “
Water,	10 “
Dil. Alcohol, q.s. to make,	34 “

Make by percolation, the diluted being used after the mixture of the alcohol and water.

Tincture of Musk.

Musk,	1 $\frac{1}{2}$ ounces.
Sugar,	$\frac{1}{2}$ ounce.
Alcohol,	21 ounces.
Tincture Ambergris,	3 “
Tincture Vanilla,	3 “

Mix, and allow to macerate 31 days. Filter and add a few drops of oil of rose.

We have already given several good receipts for making Bay Rum. Here is a good imitation. The genuine Bay Rum is made by digesting the leaves of the bay plant in rum, and subsequent distillation. The imitation is made from the essential oil obtained from the bay plant.

Oil of Bay,	10 drachms.
Oil of Pimento,	1 drachm.
Acetic Ether,	2 ounces.
Alcohol,	3 gallons.
Water,	2 $\frac{1}{2}$ “

Mix. After two weeks, filter.

Compound Tincture Wormwood.

Carduus Benedictus,	300 grains.
Orange berries,	300 “
Galanga root,	300 “
Wormwood,	2 $\frac{2}{3}$ ounces.
Dilute Alcohol, q. s. to make	34 fluid ozs.

Make a tincture by maceration for five or six days.
Express and filter.

Tincture of Aloes and Saffron.

Myrrh, in coarse powder,	375 grains.
Saffron,	375 “
Aloes, in coarse powder,	600 “
Dilute Alcohol q. s. to make	34 pints.

Make a tincture by maceration, expression and filtration.

Tincture Senna.

Senna, bruised,	125 parts.
Raisins, freed from seeds,	100 “
Caraway, bruised,	25 “
Coriander,	25 “
Proof of Spirit,	625 “

Macerate and percolate with the proof spirit.

Alcoholate of Cochlearia.

(Ph. F.)

Cochlearia, fresh,	34 ounces.
Horseradish, freshly grated,	4 $\frac{1}{8}$ “
Alcohol,	34 “
Water,	5 $\frac{1}{2}$ “

Beat the Cochlearia with the Horseradish until thoroughly mixed, add the alcohol and water, macerate two days, then distil off 34 ounces.

Etheric Tincture of Camphor.

(Ph. F.)

Camphor,	3½ ounces.
Ether,	17 fl. “
Alcohol, q. s. to make	34 fl. “
Dissolve and filter.	

Etheric Tincture of Cantharides.

Cantharides, in powder,	2½ ounces.
Acetic Ether, q. s. to make	34 “
Macerate ten days, express and filter.	

Tincture Castor and Opium.

Opium, powdered,	150 grains.
Empyrheumatic Hartshorn,	1 ounce.
Asafoetida, in course powder,	2 ounces.
Castor, in coarse powder,	4 “
Alcohol,	22 fl. “
Water,	12 fl. “
Macerate, express and filter.	

Bateman's Drops—(Tincture Pectoralis).

Opium, in powder,	75 grains.
Catechu, in powder,	75 “
Camphor,	75 “
Volatile Oil of Anise,	15 drops.
Caramel, sufficient.	
Dilute Alcohol to make	34 ounces.
Digest ten days, express and filter Caramel to give the preparation a dark, cherry color.	

Alkaline Tincture of Gentian.

Gentian, bruised,	1 ounce.
Carbonate of Sodium,	150 grains.
Dilute Alcohol, q. s. to make	34 fl. ounces..

Macerate 10 days, express and filter.

Decolorized Tincture of Iodine. (Ph. G.)

Iodine,	150 parts.
Hyposulphite of Sodium,	150 “
Distilled water,	150 “
Spirits of Ammonia,	225 “

Digest the Iodine and Hyposulphite of Sodium with the distilled water at a gentle heat, shaking occasionally until solution is effected. Then add the Spirits of Ammonia, agitate a few minutes, and finally add the Alcohol. Let the mixture stand 3 days in a cool place, and filter.

Antiscorbutic Tincture. (Ph. F.)

Horseradish (freshly grated)	6 $\frac{2}{3}$ ounces.
Black Mustard, in powder,	3 $\frac{1}{2}$ “
Chloride of Ammonium,	1 $\frac{2}{3}$ “
Dilute Alcohol,	17 fl. “
Alcoholate of Cochlearia, sufficient to make	34 “

PART II.

TINCTURES.

Tincture or Essence of Composition.

Bayberry Bark, powdered,	$\frac{1}{2}$ pound.
Ginger,	$\frac{1}{4}$ “
Hemlock Bark,	$\frac{1}{4}$ “
Cayenne,	$\frac{1}{2}$ ounce.
Cloves,	$\frac{1}{2}$ “
Alcohol, diluted to make	1 quart.

Macerate fourteen days, or make by percolation.

Dose, teaspoonful in warm water. Useful in colds coughs, colic; in fact, is the old composition powder only in a fluid form.

Churchill's Tincture of Iodine.

Iodine,	$2\frac{1}{2}$ ounces.
Iodide of Potassium,	$\frac{1}{2}$ ounce.
Alcohol, 75 per cent.,	16 fluid ounces.

Mix.

Churchill's Iodine Caustic.

Iodine,	1 drachm.
Iodide of Potassium,	2 drachms.
Water,	$\frac{1}{2}$ ounce.

Mix.

Diphoretic Powder.

Bayberry Bark, powdered,	4	ounces.
Pleurisy Root, “	4	“
Wild Ginger, “	2	“
Ginger, “	2	“
Sassafras Bark, “	1	ounce.
Lady's Slipper, “	$\frac{1}{2}$	“
Capsicum, “	$\frac{1}{2}$	“
Cloves, “	$\frac{1}{4}$	“

Mix.

A heaping teaspoonful to a pint of boiling water, well sweetened, and drink freely, or the above can be made into fluid form, as is the Essence of Composition, by maceration or percolation with diluted Alcohol, to make one quart.

The above is a valuable remedy, useful in sudden colds, coughs, hoarseness, influenza, sore throat, headache, cold hands and feet, dysentery, cholera morbus, colic, jaundice, etc., and is also a mild and safe stimulant.

Colorless Tincture of Iodine.

The mention of the German Pharmacopœia formula, which contains hyposulphite of sodium, may induce some dispenser to attempt the extemporaneous preparation of this application by the use of Hyposulphite alone. Tincture of Iodine treated with about five per cent. of this salt, will be decolorized almost immediately, to the satisfaction of the operator; but, in the course of a day or two, the compound will develop into an abominable mess, of which precipitated sulphur and sulphuretted hydrogen will be the most evident constituents. It is not generally known how small a proportion of Ammonia is necessary to produce a colorless solution of Iodine, if sufficient time

be allowed for the combination to be effected. About two fluid drachms of Liquid Ammonia suffices for four fluid ounces of Tincture of Iodine, and two drachms of Iodine dissolved in three fluid ounces of spirit are decolorized by the same quantity. These preparations have but a faint smell of free Ammonia, and are unchangeable.

Sweet Tincture of Rhubarb.

Rhubarb, bruised,	2 ounces.
Licorice Root, bruised,	2 "
Anise Seed, bruised,	1 ounce.
Sugar;	1 ounce.
Alcohol, diluted,	2 pints.

Macerate fourteen days, express and filter.

Wine of Calisaya.

Tincture of Orange Peel	2 fluid ounces.
Oil of Orange,	15 drops.
Oil of Cassia,	8 "
Oil of Anise,	8 "
Oil of Coriander,	8 "
Oil of Nutmeg,	4 "
Oil of Rose,	4 "
Extract of Vanilla,	2 fluid ounces.
Syrup,	50 " "
Citric Acid,	20 grains.
Sulphate of Quinia,	130 "
Sulphate of Cinchonia,	65 "
Phosphate of Calcium,	Q. S.
Alcohol,	14 fluid ounces.
Sherry Wine,	48 " "
Water,	Q. S. to 1 gallon.

Dover's Solution, or Liquor Morphia Compound.

Acetate Morphia,	1 drachm.
Acetic Acid, diluted,	1 ounce.
Alcohol, diluted,	8 ounces.
Wine of Ipecac,	2 "

Dissolve Morphia in diluted Acid; add Alcohol and Wine of Ipecac.

Bitter Wine of Iron.

Citrate of Iron and Quinia soluble,	2 ounces and 64 grs.
Curacao flavor,	8 fluid ounces.
Tincture of Orange Peel,	8 " "
Phosphate of Calcium,	Q. S.
Syrup,	16 fluid ounces.
Alcohol,	8 " "
Sherry Wine,	64 " "
Water,	Q. S. to 1 gallon.

Sweet Wine of Iron.

Bitter Orange Peel.	$\frac{1}{2}$ ounce, Troy
Calisaya Bark,	1 " "
Citric Acid,	$\frac{1}{2}$ " "
Citrate Iron and Ammonia,	2 ounces, "
Distilled Water,	2 pints.
Sherry Wine,	4 "
Sat. Tincture of Sweet Orange Peel, fresh,	1 pint.
Alcohol,	17 ounces.
Syrup of Orange Peel,	16 "

Mix. Macerate fourteen days, and filter.

Wine of Pepsin.

Saccharated Pepsin,	160 grains.
Diluted Muriatic Acid,	1 drachm.
Sherry Wine, to make	16 ounces.

Add Acid to Pepsin till dissolved; then add Wine, and filter.

CHAPTER VII.

ESSENCES.

Gooseberry Essence.

To 1 part Aldehyde add 5 parts Acetate, 1 part Benzoate, 1 part Oenanthylate of Ethyl, 5 parts saturated Solution of Tartaric, and 1 part each of the same Succinic and Benzoic acids.

Pine Apple Essence.

To 3 parts of Glycerine and 1 part of Chloroform add 1 part Aldehyde, 5 parts Butyrate of Ethyl, and 10 parts of Butyrate of Amyl.

Extract Celery.

Bruise 2 ounces of Celery seeds, and put into a percolator; pour on 1 pint deodorized Alcohol; then pour on water till a pint of extract has passed through; triturate with one drachm Carbonate of Magnesia. Filter.

Extract of Vanilla.

Cut 1 ounce of Vanilla into small pieces, and triturate with 2 ounces of sugar to a coarse powder; put it into a percolator; pour on it diluted Alcohol until 1 pint has run through, then mix with 1 pint of syrup.

Apple Essence.

To 4 parts of Glycerine, 1 part of Chloroform and 1 part of Nitric Ether, add 2 parts of Aldehyde, 1 part Acetate of Ethyl, 10 parts Valerianate of Amyl, and 1 part saturated solution of Oxalic Acid.

Grape Essence.

To 10 parts of Glycerine and 2 parts of Chloroform, add 2 parts of Aldehyde, 2 parts of Formiate, 10 parts Oenanthylate of Ethyl, 1 part Salicylate of Methyl, 5 parts Tartaric and 3 parts Succinic Acid in Saturated Solution.

Extract of Ginger.

Pack 4 ounces of powdered Ginger in a percolator, moisten it with a little Alcohol, then pour on Alcohol until $1\frac{1}{2}$ pints of tincture have passed through. Mix this with 8 ounces of syrup.

Extract of Rose.

Bruised Rose Leaves,	2 ounces.
Alcohol (deodorized)	1 quart.

Macerate. Press out the Alcohol, and add to it Oil Rose, 1 drachm. If red rose leaves are difficult to procure, a little Tincture of Cochineal will give a pale rose tint.

Melon Essence.

Glycerine, 3 parts. To this add 2 parts Aldehyde, 1 part of Formiate, 4 parts Butyrate, 5 parts Valerianate of Ethyl, and 10 parts Sebacic Ether.

Strawberry Essence.

To 2 parts Glycerine and 1 part Nitric Ether add 5 parts Acetate, 1 part Formiate, 5 parts Butyrate of Ethyl, 1 part Salicylate of Methyl, 3 parts Acetate and 2 parts Butyrate of Amyl.

Extract of Coriander.

Coriander, powdered,	4 ounces.
Oil Coriander,	1 drachm.
Alcohol of 95%,	1½ pints.
Water,	½ pint.

Macerate for 24 hours, decant the liquid; put the matter that has settled into a percolator, and pour on it the decanted liquid, adding Alcohol until a quart has run through.

Extract of Cinnamon.

Oil of Cinnamon (dissolved in)	2 drachms.
Alcohol (deodorized),	1 pint.
Water, added to above gradually,	1 “

Then add, by degrees, Ceylon Cinnamon, 4 ounces. Agitate for several hours and filter through paper.

Leeming's Essence:

Cantharides, powdered,	4 ounces.
Euphorbium,	1 ounce.
Bichloride of Mercury,	1 “
Methylated Spirit,	24 ounces.
Oil of Thyme,	6 drachms.

Mix. The above is a blistering compound used by veterinary surgeons.

Indian Chologogue.

Sulph. Quinine,	2 drachms.
Fl. Ext. Leptandrin,	2 “
Tinct. Stillingia, saturated,	4 ounces.
Fl. Ext. Podaphyllin,	3 drachms.
Oil of Sassafras,	10 drops.
Oil of Wintergreen,	10 “
Molasses, q. s. to make	8 fl. ounces.

Orange Extract.

Follow the same method as for Lemon Extract, using 4 ounces exterior rind of oranges, 1 quart of deodorized Alcohol, and 2 ounces recent Oil of Orange.

CHAPTER VIII.

PART I.

SYRUPS.

Syrup of Ipecac Compound.

Powdered Ipecac,	1 drachm.
Powdered Orris Root,	2 drachms.
Powdered Red Peruvian Bark,	4 “
Senega Root,	2 ounces.
Iceland Moss,	2 “
White Sugar,	32 “
Boiling Water,	2 pints.

Digest for two hours; strain and evaporate to one pint; then add the sugar and make a syrup.

Dose, teaspoonful, as an expectorant.

Syrup of Garlic.

Fresh Garlic,	12 ounces.
Diluted Acetic Acid,	32 “
Sugar,	4 pounds.

Macerate the Garlic with ten ounces of the Acid, in a glass vessel for four days, and strain, and add the remainder of the Acid to the dregs and express. Add Sugar to form syrup.

A good expectorant in chronic Catarrh, well suited for children. Dose for a child, one-half to one teaspoonful.

Syrup of Wormwood.

Wormwood,	2 ounces.
Boiling Water,	1 pint.

Infuse for twelve hours; strain; add to the filtered liquor twice its weight of Sugar, and make a syrup.

Dose, tablespoonful.

Syrup of Chloral.

It is a difficult matter to cover the peculiar acrid taste of Chloral, but I have found this difficulty overcome, to a considerable extent, in the formula here given.

Chloral Hydrate, crystalized,	80 grains.
Peppermint Water,	3 drachms.
Curacao Cordial,	4 “
Syrup of Acacia,	2 ounces.

Mix.

Marshmallow Syrup.

The following formula is highly recommended:

Marshmallow Root, cut,	1½ ounces.
Cold Water,	10 “
Sugar,	15 “
Orange Flower Water,	1 ounce.
Simple Syrup, sufficient to make	30 ounces.

Rinse the root lightly with water, then macerate it a few hours with the cold water; strain without pressure, adding enough water through the strainer to make the strained infusion equal to the original measure; set it aside to settle, decant the clear liquid, and in it dissolve the Sugar with the aid of heat. After straining the

syrup, and when it has cooled, add to it the Orange Flower Water, and enough Simple Syrup to make the finished preparation measure thirty ounces.

Aromatic Fluid Extract of Rhubarb.

The following will be found a ready method of making an aromatic Syrup of Rhubarb:

Rhubarb, in moderately fine powder,	6 ounces.
Cloves, in moderately fine powder,	2½ "
Cinnamon, in fine powder,	2½ "
Nutmeg, in fine powder,	¾ ounce.

Percolate with a menstruum of

Stronger Alcohol,	6 ounces.
Water,	6 "
Glycerine,	5 "

until one pint has passed through.

One fluid ounce of this extract mixed with fifteen fluid ounces of syrup will make a pint of Aromatic Syrup of Rhubarb.

Syrup of Dover's Powder.

Macerate, for a few days, sixty-four grains of pulverized Opium in one ounce Wine of Ipecac; filter and add to sixteen ounces of Simple Syrup; drive off excess of Alcohol by slightly heating; after, if you wish. add one ounce Sulp. Potass.; dissolve in syrup and filter.

Each teaspoonful is equivalent to five grains Dover's Powder.

Syrup of Saffron.

Spanish Saffron,	1 ounce.
Glycerine,	4 ounces.
Water,	12 “

Macerate for eight days, and filter into a quart bottle; add water, through the filter, sufficient to make one pint, then add twenty-eight ounces of Sugar, and dissolve cold by frequent agitation.

PART II.

SYRUPS.

Syrup Making.

To clear all kinds of sugar, the best method is to take a little Gum Arabic and a little Isinglass dissolved in hot water. Pour it, when dissolved, in your sugar when it is boiling, and it will clear all the sediment to the top of the pan, which must be skimmed off as soon as it rises. Loaf sugar may be cleared with the white of an egg, Isinglass or Gum Arabic.

Moxie.

Tinct. Gentian Comp.,	1½ ounce.
Ext. Sarsaparilla,	1 “
Caramel,	1 “
Syrup,	Q. S. 1 gallon.

Use Mathews' Sarsaparilla, which tastes of Checkerberry.

Syrup of Valerianate of Ammonia.

Valerianic Acid,	2 fl. drachms.
Dilute Alcohol,	½ fl. ounce.

Saturate the Valerianic Acid with Carbonate of Ammonia, having previously mixed it with the dilute Alcohol, then add the syrup sufficient, 8 ounces.

Fellow's Syrup.

Quinine (Alkaloid),	20 grains.
Strychnia,	1 grain.
Hypophosphorus acid, 30%	2 fl. drachms.
Strong Sol. Hypophosphite Iron,	3 fl. ounces.
Dissolve and then add	
Hypo-Calcium,	80 grains.
Hypo-Manganese,	40 “
Hypo-Potassium,	40 “

Dissolve, filter, and add Glucose Syrup to make a pint imperial measure.

Moore's Syrup of Tar.

Tar, strained,	1 troy ounce.
Sugar, pulverized,	12 “ ounces.
Carbonate of Magnesia,	3 “
Alcohol,	2 fluid “

Mix the Alcohol with 6 fluid ounces of water, rub the tar, in a mortar of sufficient capacity, with 1 ounce of the Sugar, and then with Carbonate of Magnesia, gradually added, until the whole is reduced to a uniform, pulverulent mixture. To this gradually add, with constant trituration, which should be continued for 15 or 20 minutes, 4 fluid ounces of the mixture of Alcohol and Water, then strain with strong expression. Return the residue to the mortar and again triturate, first with 1 ounce of the Sugar, and then with the remaining 4 fluid ounces of the mixture of Alcohol and Water, gradually added, as before. Finally strain and strongly,

express, and then reduce the dregs by trituration to a smooth and uniform condition, and pack firmly in a glass funnel prepared for percolation, and adjusted to the neck of a graduated bottle containing the remainder of the Sugar, and pour upon this the expressed liquid, and when it has all disappeared from the surface, continue the percolation with water until the whole measures 1 pint. Agitate occasionally until the Sugar is dissolved, and strain if necessary. Dose, from a dessert to a teaspoonful.

French Syrup of Santonin.

Santonin,	55½ grains.
Alcohol,	2 drachms.
Boiling Syrup,	16 troy ounces.

Dissolve the Santonin in the Alcohol, and add the Syrup.

A Colorless Syrup of Hydriodic Acid.

Hypophosphite Soda,	2 grains.
Iodide Potassium,	140 “
Dissolve in water,	6 fl. drachms.

And add

Glycerine,	2 fl. ounces.
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Then add a solution of

Tartaric Acid,	127 grains.
In Alcohol,	6 drachms.

Place in ice water for 3 hours, and add Simple Syrup sufficient to make 1 pint. One fluid ounce of the finished Syrup contains 6.72 grains of Hydrotic Acid, equivalent to 6.66 grains of Iodine, the same strength as Gardner's preparation.

Aromatic Syrup of Squill.

Ginger, bruised,	150 grains.
Squill, finely cut,	300 “
Hyssopus Officinalis, cut,	1½ ounces.
Sugar,	25 “
Peppermint water q. s. to make	34 “

Macerate the drugs with 17 ounces of Peppermint water in a covered vessel for 24 hours, strain and filter. If necessary, add Peppermint water sufficient to make the final product measure 34 ounces. Shake well.

Syrup of Senna.

Fluid Extract Senna,	12 ounces.
Spirit of Coriander,	2½ drachms.
Simple Syrup, q. s. to make,	34 ounces.

Mix.

Syrup of Senna and Manna.

Fennel, bruised,	150 grains.
Coriander, bruised,	150 “
Senna, finely cut,	1500 “
Sugar,	20 ounces.
Water, sufficient to make,	34 pints.

Digest the Senna, Manna and Spices with 17 ounces of boiling water for two hours, strain, adding enough boiling water through the strainer to make the colature measure 17 ounces. Set it aside to settle, and then decant the clear liquid. Add the Sugar and dissolve by agitation and the aid of gentle heat. Strain if necessary, and add Simple Syrup to make the final product measure 34 ounces.

Syrup of Capsicum.

Cayenne Pepper, in fine powder,	2 drachms.
Carbonate of Magnesia,	1 drachm.
Sugar, in coarse powder,	14 troy ozs.

Rub the Cayenne Pepper first with the Carbonate of Magnesia and Sugar, and then with 1 fluid ounce of Alcohol, and slowly pour in water until 6 fluid ounces have been added. The whole is then to be transferred to a proper filter, and when the liquor has ceased to pass, pour on water until 9 fluid ounces of filtered liquor are obtained. To this add the remainder of the Sugar, and by a gentle heat form a pint of Syrup. Made in this manner, Syrup of Capsicum is a pungent, yellowish-brown syrup, each teaspoonful of which contains nearly 2 grains of Cayenne Pepper.

Fruit Syrup.

Genuine fruit syrups lose their color by Chlorine. Those colored by Aniline derivatives give, at the same time, a flocculent precipitate similar to that produced by Ammonia in solution of Sesquioxide of Iron. Sulphurous Acid destroys the color of both. Sulphuric, Hydrochloric and Nitric Acids render the color of genuine syrups brighter, and change the artificial ones into yellowish-orange. Potassa decolorizes fuchine syrups, while red fruit syrups acquire a dirty, greenish hue. Carbonate of Potash does not change the color of artificial syrups, while the others are colored green. Basic Acetate of Lead gives, with real fruit syrups, a greenish precipitate; with fuchine syrups a red one.

Syrup of Buckthorn.

Buckthorn Juice,	34 ounces.
Ginger, sliced,	150 grains.
Allspice, bruised,	150 “
Sugar, in coarse powder,	34 ounces.
Rectified Spirit,	6 “

Evaporate the juice to 22 ounces, add the Ginger and Allspice. Digest at a gentle heat for 4 hours and strain. When cold, add the spirit. Let the mixture stand two days, decant to clear liquor, and in this dissolve the Sugar without heat.

French Syrup of Balsam Copaiba.

Calcined Magnesia,	2½ drachms.
Yolk of Eggs,	No. 4.
Triturate together, and add:	
Balsam Copaiba,	5½ ounces.
Simple Syrup,	10½ “

Syrup Wild Cherry, Hoarhound and Tar.

Fluid Extract Hoarhound,	100 parts.
Syrup of Wild Cherry,	300 “
Syrup of Tar,	600 “

Mix.

CHAPTER IX.

STEATINS.

Dr. W. H. Mielcke, of Hamburg, proposes a new class of preparations, intermediate between plaster and salve, for the external application of certain remedies which have heretofore been applied in an unsatisfactory manner, owing to various causes. These preparations would correspond to the class of Cerates, but as they do not all contain wax, and their chief constituent is mostly mutton tallow, he has named them "Steatina."

The manipulation of these Steatins requires no more trouble than the spreading of a plaster according to the old style. The author gives a number of working formulæ:

Steatin of Belladonna.

Mutton tallow,	5 parts.
Lard,	2 "
Lead-plaster,	2 "

Melt together, allow to cool somewhat, and while the mass is still plastic, incorporate

Extract of Belladonna,	1 part,
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previously reduced to a syrupy consistence by means of a mixture of equal parts of Water, Alcohol and Glycerine. Mix intimately.

Camphorated Steatin of Chloral.

Chloral Hydrate,	2 parts.
Camphor,	2 "
Yellow Wax,	5 "
Mutton tallow,	11 "

Melt the Chloral and Camphor together in a small flask, with a gentle heat, so that a readily flowing liquid may be obtained. Add this to the other ingredients previously melted together at a low temperature.

Steatin of Chloral.

Chloral Hydrate, in fine powder,	2 parts.
Olive Oil,	5 "
Mutton tallow,	6 "
Yellow Wax,	7 "

Dissolve the Chloral, with a gentle heat, in the Olive Oil; then add the solution to the other ingredients previously melted together.

Steatin of Iodine.

Iodine, in fine powder,	1 part.
Alcohol,	3 parts.
Castor Oil,	7 "
Mutton tallow,	7 "
Yellow Wax,	7 "

Dissolve the Iodine in the Alcohol, then add the Castor Oil; add the mixture to the other ingredients, previously melted, at as low a temperature as possible. (Does not keep long.)

Steatin of Iodoform.

Mutton tallow,	18 parts.
Oil of Nutmeg, expressed,	2 "
Iodoform, in fine powder,	1 part.

Add the Iodoform to the other ingredients, previously melted, so that it may be quickly dissolved.

Steatin of Mercury.

Mercury,	25 parts.
Mercurial Ointment,	5 "
Lard,	22 "
Mutton tallow,	10 "
Lead-plaster,	18 "

Extinguish the Mercury by trituration with the Mercurial Ointment; then mix it, without delay, with the other ingredients, previously melted together and partly congealed.

Steatin of Veratria.

Mutton tallow,	75 parts.
White Wax,	10 "
Castor Oil,	15 "
Alcohol,	10 "
Veratria,	1 part.
Oil of Peppermint,	Q. S.
Oil of Lavender,	Q. S.

Dissolve the Veratria in the Alcohol; add the Castor Oil and sufficient of the essential oils, and add the whole to the tallow and wax, previously melted and partly cooled.

Steatin of Opium.

Mutton tallow,	22 parts.
Castor Oil,	5 "
Liquid Storax,	8 "
Elemi,	8 "
Balsam of Peru,	2 "

Melt them together and let the mixture deposit any infusible or foreign matter. Then take of this

Purified Mixture,	25 parts.
Lead-plaster,	15 "
Extract of Opium,	1 part.

Melt the first two together, and incorporate the latter, previously made liquid, with a mixture of two parts of Water, one of Alcohol and one of Glycerine.

Steatin of Tar.

Tar	12 parts.
Mutton tallow,	100 "

Digest the Tar one day in a closed vessel, with the Tallow, then pour off the clear liquid from the sediment, and cool.

Steatin of Thymol.

Thymol,	1 part.
Olive Oil,	5 parts.
Mutton tallow,	190 "
Yellow Wax,	4 "

Dissolve the Thymol in the Olive Oil, and mix with the other ingredients, previously melted and somewhat cooled.

Steatin of Bichloride of Mercury.

Bichloride of Mercury,	1 part.
Alcohol,	10 parts.
Castor Oil,	50 "
Mutton tallow,	900 "
White Wax,	50 "

Dissolve the Bichloride of Mercury in the Alcohol; add the Castor Oil, and mix with the other ingredients, previously melted and somewhat cooled.

Steatin of Chloroform.

Chloroform,	1 part.
Olive Oil,	1 "
Mutton tallow,	1 "
Yellow Wax,	2 parts.

Mix the Chloroform with Olive Oil, and add the solution to the other ingredients, previously melted together, at as low a temperature as possible.

CHAPTER X.

PART I.

INCOMPATIBLE MEDICINE.

Medical men are but rarely good chemists, for this would necessitate longer devotion to Chemistry, than the average medical student can afford. Hence the importance of this branch being taken by the dispenser in order that he may check the prescriber's combinations.

Many decompositions are intentional such as in Mist. ferri Co. B. P. or in the frequent combinations of Tincture Opii or Ext. Opii Liq. with Liq. Plumbi subacet for injections also in the following:

Ext. Conii,	℥ ss.
Liq. Plumbi Subacet	℥ ss.
Aquæ ad.,	℥ vi.
M. Ft. Lotio.	

In this case the abundant precipitate renders it almost creamy and necessitates mixing half the water with the extract and the remainder with the liquor before mixing, or a disagreeable lumpy mixture is produced.

Such combinations may be dispensed as written, and sent out with a "shake label." Occasionally, however, the decompositions are of such a character that the druggist may feel pretty sure that the writer of the prescription is unacquainted with the reaction or has overlooked it. For example:

1ST CASE:

Sulph. Quiniæ,	gs. xij.
Acid hydrobrom,	3 iv.
Pot. bromid,	3 j.
Tincture lavand, Com.,	3 iij.
Soda Salicylat,	3 j.
Aquæ,	3 ix.

2D CASE:

Soda Sulph.,	gts. xv.
Potas. cit.,	gts. xx.
M. Ft. pulv. mitte,	vj.

3D CASE:

Zinc sulph.,	3 j.
Plumbi acetat,	3 ij.
M. Ft. pulv.	

In the first case the salicylate of quinine produced cannot be rendered readily diffusible pulv. trag. co. 3 jss. was therefore added previous to the decomposition. In the other two cases metathesis takes place, the water of crystallization of the sulphates is liberated, and the mass becomes wet. The use of an equivalent quantity of the dried salts removes the difficulty.

Potass iodid,	3ss.
Tinct. camph. co.,	3 vj.
Syr. Scillæ,	3 vj.
Sp. æther nit.,	3 ij.
Aq. ad.,	3 vj.

Although the sp. æther nit. was neutralized, iodine was liberated through the influence of the acetic acid of the syrup. Such could not be dispensed, and the physician wrote a new combination altogether as also was the case with the following:

Potassæ chlorat	3 ij.
Syr. ferri iodidi	3 vi.
Vin. Antim	3 ss.
Æther chlor.	3 ij.
Aqua ad.	3 viij.

This mixture is almost colorless when first prepared, but rapidly acquires a reddish-brown color, and after a few days crystals of iodine are deposited. This is due to the action of chlorate of potash on ferrous iodide, the latter being oxidised by the former, chloride of potassium is produced, iodine set free and finally ferric oxide or hydrate precipitated. The druggist will have to use his discretion as to whether the decomposition is of sufficient importance to refuse dispensing. The two last mentioned are two such instances. Incompatible mixtures are sometimes the result of impurities in the drugs used, thus:

Soda hyposulph	3 j.
Acid Sulphurous	3 i.
Aq rosæ ad.	3 viij.

The acid invariably contains some sulphuric acid, which throws out sulph from the hypo-sulphite.

Bromide of Potassium frequently contains a trace of carbonate which occasions a precipitate of pure quinine. For example:

Quiniæ brom.	grs. xij.
Potassii brom.	3 i.
Aquæ ad.	3 iij.

The bromide of quinine should be dissolved in the greater part of the water, warmed if necessary, and a neutralized solution of the brom. potass added to it.

Citrate of Potash.**1ST PRESCRIPTION.**

Potassiæ cit.	℥ iij.
Potassæ bicarb.	℥ ij.
Tinct. aurant	℥ iv.
Aq. ad.	℥ viii.

2D PRESCRIPTION.

Potassæ cit.	℥ ii.
Quiniæ sulph.	gr. ix.
Aq. ad.	℥ vj.

Citrate of potash is rarely neutral; the sample used for the first prescription effervesced briskly with the bicarbonate and examination proved the presence of nearly 5 per cent. of citric acid.

Another parcel was used for the second prescription and a precipitate of quinine was produced; examination showed it to be alkaline. In each case the citrate should have been neutralized either with potassæ carb or citric acid.

The appearance of a sample of citrate of potash always indicates whether it is very acid or alkaline. If alkaline it assumes a damp appearance and aggregates in lumps; but if acid it seems to dry and pulverulent.

Alkaloids whether alone or as salts, are nearly all precipitated from their solutions by tannic acid. They are therefore incompatible with this acid and also with the various astringent vegetables containing it.

Chlorides

Are incompatible with nitrate of silver.

Almond Emulsion

Is separated by alcohol, tinctures, oxymel, and syr. of squills, spirits of nitre, hard water and cream of tartar.

Borax,

Powdered and rubbed up with mucilage, forms a soft powder like moist sugar, which cannot be made liquid by the addition of any further quantity of mucilage; and acetate of lead, similarly treated, makes an opaque white jelly.

Calomel

Is decomposed by alkalis, alkaline earths and their carbonates, sulphides, Hydrocyanic acid, bitter almonds, lime water, iodide of potash, iodine, soap, nitric acid, salts of iron, lead and copper, nitrate of silver. Be careful not to use soap in pills containing calomel.

Chloroform.

If in a mixture containing opium or its preparations, will dissolve the narcotine, and, unless perfectly mixed may cause an overdose of this or some other alkaloid, soluble in that vehicle to be given with the last dose.

Cochineal

Is precipitated by salts of zinc, bismuth and nickel, in a lilac powder; iron gives a dark purple, tin a brilliant scarlet and alumina the lakes.

Iodide of Potassium

Is decomposed by all acids and acidulous salts, except cream of tartar. Most of the metallic salts decompose it. If iodide of potassium and spirit of nitrous ether are ordered in a mixture, the latter must be carefully neutralized before it is used.

Solution of Potash,

With acids ammonias, calomel iodides, and with vegetable infusions containing an alkaloid principle.

Iron Salts.

A sesquioxide is generally thrown down by the alkalies and alkaline carbonates. Prussian blue is formed by ferro cyanide of potassium; a precipitate of sulphide is yielded by sulphuretted hydrogen; and tannin and vegetable tinctures or infusions containing it, form with iron the basis of black ink.

Nitrate of Potassium

Is decomposed by most of the sulphates, and forms a double salt with alum.

Plumbi Acetas

And its liquor are incompatible with infusions of opium, the vegetable astringents, soap, milk, or albumen. It is decomposed by sulphuric, hydrochloric, citric, and tartaric acids. Iodide of potassium causes a yellow precipitate, sulphuretted hydrogen, a black precipitate carbonated alkalies, throw down a white one and chromate of potash a yellow one.

Bromide of Potassium

Is also like the iodide, decomposed by acids. Chlorides, and salts of mercury, lead and silver are also incompatible with either.

Strychnine

Is precipitated from solution of its salts by alkalies and their carbonates. When the Pharmacist gets a prescription, where incompatible substances are ordered it is clearly his duty to compound it unless absolutely incompatible, in which case the different ingredients will not mix, or if they do mix, decompose each other. Instances of such might be given to fill a large volume, and unfortunately no rule can be laid down for the guidance of the young dispenser; as it is still an open question, with pharmaceutical authorities, whether a compounder is justified in altering a prescription, Suppose he find the emulsifier or pill excipient ordered by a medical man unsuitable. Much will depend upon his knowledge of, and his relations to the prescriber; but, where a consultation is impracticable, the dispenser must rely upon his past experience.

Hager gives the following list of substances in most general use, which in combination are likely to decompose each other, or which may limit or increase the activity of certain medicines. But it must be remembered that such compounds are sometimes intentionally prescribed by the physician.

Acid Arsenious

With lime water oxide of Iron Magnesia.

Acetate of Lead

With gum arabic, tragacanth opium, lime water, carbonates, sulphates, sulphuric and hydrochloric acids, salammoniac, iodine, iodide of potassium and tannin.

Acids

Generally, with Alkalies, acetates, metallic oxides.

Albumen

With acids, spirit, tannin, corrosive sublimate alkaloid salts, generally with tannin alkaline and earthy carbonates, iodine and its compounds, licorice, strong mucilages, alkaline and ammoniated tinctures.

Alum Sulphate

With alkalies and alkali carbonates.

Ammonia, Bromide of,

With mineral acids, alkaline carbonates, chlorine, chlorate and bichromate of potash, nitrate of silver, calomel.

Bi Carb Soda

With acids, tannin, salts of the metals and of the alkaloids.

Bismuth Subnitrate

With tannin, sulphur, sulphide of Antimony, calomel.

Chlorate of Potash.

With mineral acids, organic substances, sulphur, carbon, calomel, iodide of iron.

Calomel

With acids, alkaline carbonates, lime water, sal. ammoniac, iodine, iodide of potash, chloride of iron, sulphur, sulphide of antimony, bitter almonds, prussic acid, vegetable extracts.

Chloral Hydrate

With water (slow decomposition) warm water, alkaline carbonates, vegetable alkalies, ammonia salts, nitrate of mercury, calomel.

Corrosive Sublimate

With carbonates, lime water, iodide of potassium, opium, vegetable infusions, tannin.

Digitalis

With tannin, sugar of lead, iodine, iodide of potassium, alkaline carbonates.

Gum Arabic

With chloride of iron, alcohol, lead salts, ethereal tinctures, borax.

Gum Resins

With metallic salts, camphor, distilled waters.

Iodide Potassium and Sodium.

With acids, acid salts, salts of the alkaloids, nitrate of silver, salts of iron, lead and mercury, chlorate of potash, chlorine water.

Iodine

With ammonia, starch, metallic salts, fatty or essential oils, emulsions, chloral, earthy carbonates, gum arabic, tragacanth.

Lime Water.

With acids, carbonates, ammonias, metallic salts, tartrates infusions and extracts, tannin, mucilage.

Morphia

With oxide of iron, salts of iron and nitrate of silver.

Nitrate of Silver

With hydrochloric sulphuric, acetic and tartaric acids and their salts, prussic acid and its compounds, iodide and bromide of potassium, sulphur, opium with alkaline carbonates, salts of the metals, tannin, iodine, nux vomica and belladonna.

PART II.

INCOMPATIBLES.

Incompatibles are those substances which cannot be combined in prescriptions without altering either their chemical or medicinal properties.

Acacia

Is incompatible with Tincture Muriate of Iron, Alcohol, Sulphuric Æther, and Goulards Extract.

Acetate Hydrargyrum

Is incompatible with Alkalies.

Acitum Colchici

Is incompatible with Alkalies, Earths, Earthy Carbonates, and Sulphuric Acid.

Acidum Aceticum

Is incompatible with Sulphuric Acid, and Alkalies.

Acidum Citricum

Is incompatible with Sulphuric Acid, Nitric Acid, Acetate of Lead, Nitrate and Acetate of Mercury, Alkalies, and Alkaline Sulphurets.

Acidum Hydrochloricum

Is incompatible with Alkalies, Earths and their Carbonates, Metallic Oxides, Sulphuret of Potassium, Tartar Emetic, and most Metallic Salts.

Acidum Hydrocyanicum (dil.)

Is incompatible with Metallic Oxides, and Chlorine.

Acidum Nitro Muriaticum

Is incompatible with Oxides, Earths, Alkalies, Sulphurets, and the Acetates of Potassa and of Lead.

Acidum Tartaricum

Is incompatible with Alkalies and other Carbonates, and all the Salts of Potassa. This acid was formerly much used in making saline draughts. Now, if Bicarbonate of Potash be added to a solution of Tartaric Acid, Bitartrate of Potash is thus formed, and at once precipitated; but if the Tartaric Acid be added to the Salt of Potash, no such untoward circumstance will occur.

Alum

Is incompatible with Alkalies and their Carbonates, with Tannic Acid and preparations containing it, with Tartrates, Salts of Lead, Lime, and Baryta, &c.

Acid, Tannic

May be prescribed with the Protosalts of Iron, but not with the persalts. Galls and Tannic and Gallic Acids are said to be incompatible with infusions and decoctions containing Alkaloids, but Tannates of Alkaloids are by no means inert; Tannate of Morphia will induce sleep, and Tannate of Emetine will cause vomiting. Tannic Acid is also incompatible with Gelatine, and with many Metallic substances.

Argenti Oxidum.

This substance is incompatible with many organic substances. On account of its influence on the mucous membrane of the stomach, it might possibly occur to a

practitioner that it would be a valuable addition to Creasote in certain cases of vomiting. The result of such a combination would be spontaneous combustion.

Ferri et Ammonia Citras.

This salt is sometimes prescribed in effervescence. In such a case the Iron Salt must be put into the Citric Acid solution, and not into that of the Bicarbonate of Potash; if the latter course were adopted, Carbonic Acid would be given off, with the probable effect of bursting the bottle. This salt is often prescribed with Tincture of Orange alone; it will be well to remember that unless *some* water be added, it will be insoluble in this menstruum.

Ferrum Tartaratum

May be prescribed with Alkaline Carbonates.

Hydrargyri Perchloridum

Is incompatible with vegetable preparations containing Albumen or Tannin. It is precipitated by Alkalies, Alkaline Sulphurets, Iodides, Tartar Emetic, &c.; in fact there is hardly anything with which it is advisable to combine Corrosive Sublimate except Chloride of Ammonium, which increases its solubility, and decoction of Sarsaparilla.

Hydrargyri Subchloridum.

You should be very careful not to order Calomel in combination with any preparation containing a trace of Prussic Acid. Innocuous as Calomel itself is, comparatively speaking, it is converted by Prussic Acid into Bichloride and Biniodid of Mercury, two virulent poisons.

Magnesiæ Sulphas

I have seen a prescription in which Epsom Sals was ordered with Calcined Magnesia and Colchicum Wine; the result of such a combination would be an insoluble bulky mass.

Plumbi Acetas

Is incompatible with nearly everything except solid Opium and distilled water. If common water be added to Liquor Plumbi Subacetatis, Carbonate and Sulphate of Lead will be thrown down.

Potassii Iodidum

Should not be prescribed with Sweet Spirits of Nitre, Acid preparations, or those containing Starch. In fact, Iodine and Iodides should be prescribed with as few additions as possible. Iodide of Potassium decomposes nearly all Metallic Salts.

Calumba.

When we desire to combine Salts of Iron with a Vegetable Tonic, Calumba may be chosen, as it contains no Tannic or Gallic Acid.

Camphora

Forms soft masses with Gum Resins. It destroys the odor of Musk.

Caryophyllum.

Cloves contain Tannin, and hence should not be prescribed with Iron Salts.

Tinct. Cascarilla.

This preparation is not unfrequently prescribed with dilute Mineral Acids: the combination is, however, objectionable, as floccules soon float through the mixture. If it is desirable to combine an acid with Cascarilla, the infusion of that drug should be selected.

Tinct. Cannabis Indicæ.

If this or other spirituous solutions of resinous substances be added to water, the resin will be precipitated, unless mucilage be added in order to suspend it.

CHAPTER XI.

POWDERS.

Sick Headache Powder.

A preparation of this kind, sold under the above name, was found to consist of equal parts of Salicylate of Sodium and Milk Sugar.

Curwin's Hog Powder.

Sulphur,	4½ parts.
Sulphate of Iron,	4½ “
Sulphate of Lime (gypsum),	7 “
Common Salt,	78 “
Carbon,	4½ “
Silica,	1½ “

A trace of Phosphoric Acid was found. The above, however, will come very near a complete analysis.

Compound Opium Powder.

(Br.)

Opium, in powder,	150 grains.
Black Pepper, in powder,	180 “
Ginger, in powder,	525 “
Caraway, in powder,	600 “
Tragacanth, in powder,	45 “

Mix.

Compound Powder of Phosphates.

(A. P. A.)

Phosphate of Sodium,	300 grains.
Phosphate of Calcium,	300 “
Phosphate of Iron,	300 “
Sugar, in fine powder,	600 “

Expose the Phosphate of Sodium to a heat in a porcelain dish until the water of crystallization is dissipated, taking care not to continue the heat until the salt is caustic to the tongue. Reduce it to powder and then add the other ingredients, and mix thoroughly.

Compound Powder of Scammony.

Scammony, in powder,	750 grains.
Jalap, in powder,	585 “
Ginger, in powder,	200 “

Anodyne Substitute for Opium.

Sulphuric Tincture,	2½ drachms.
Tincture Henbane,	2½ “
Camphor Water,	5 “

A teaspoonful of the mixture may be given every two hours, in cases where opium cannot be administered.

Violet Powder.

Wheat Starch,	12 pounds.
Powdered Orris,	2 “
Mix, and add	
Oil of Lemon,	½ ounce.
Oil of Bergamot,	2 drachms.
Oil of Cloves,	2 “

Bloom of Roses.

Powdered Carmine,	2 drachms.
Digest with strong Ammonia,	4 ounces.
Place in strong bottle for two days, then add	
Rose Water,	1 pint.
Essence of Rose,	4 ounces.

After standing for a week to settle, the clear liquid may be poured off from the sediment and bottled.

Azure Paste.

Talc and Ultramarine finely bolted, equal parts, triturated with a solution of Gum Tragacanth into a stiff paste.

Anodyne Powder.

Opium,	$\frac{1}{2}$ ounce.
Camphor,	3 drachms.
Valerian,	1 ounce.
Cayenne Pepper,	1 “

Put the Opium and Camphor into a close bag, place it on the oven top to harden. Powder and mix. Take $\frac{1}{4}$ teaspoonful at a time. Most valuable in cramp colic and severe pains.

CHAPTER XII.

WORM PREPARATIONS.

Perry's Quaker Vermifuge.

Alexandria Senna,	1 pound.
Pink Root,	2 pounds.
White Sugar,	6 "
Alcohol,	1 pint.
Carbonate Potass,	3 ounces.
Santonin,	3 "
Oil Caraway,	1½ drachms.
Oil Anise,	1½ "
Water to make	1 gallon of Syrup.

Infusion of Kousso.

(Tapeworm Remedy.)

Kousso in powder,	2 drachms.
Boiling water,	4 ounces.

Digest half an hour in covered vessel, and when cold drink without being strained. The patient must fast for twelve to twenty-four hours before taking the medicine. If in four to six hours the medicine has not operated, a dose of Castor Oil should be given.

The above is the adult dose.

To disguise the taste, strong coffee can be used without cream or sugar.

Vermifuge.

Oil Wormseed,	1½ ounce.
Oil Turpentine,	2 drachms.
Oil Peppermint,	2 “
Oil Anise,	1 “
Castor Oil to make	1 pint.

Dose, teaspoonful to dessertspoonful.

Santonin Lozenges.

Santonin (fine powder)	½ ounce, troy.
Sugar (fine powder),	18 ounces.
Tragacanth (fine powder),	½ ounce.

Orange flower water a sufficient quantity. Rub the powders together until they are thoroughly mixed. Then, with Orange Flower Water, make a mass to be divided into four hundred and eighty Troches. Color with Carmine.

Each Lozenge contains about half a grain of Santonin.

One may be used every three or four hours, until three or four are taken, followed with a purgative.

Vermifuge.

Oil Wormseed,	6 drachms.
“ Anise,	40 drops.
“ Castor,	12 ounces.
Mix and add Syrup Rhubarb Aro,	4 “

Shake well. Dose, teaspoonful night and morning, for a child two years old.

Vermifuge Emulsion.

Oil Wormseed,	$\frac{1}{2}$ ounce.
Sugar,	1 “
Pulverized Gum Arabic,	1 “
Aqua Peppermint,	10 ounces.

Make Emulsion.

Dose, one teaspoonful four times a day for two days, followed by a laxative such as Castor Oil or Epsom Salts.

Swaim's Vermifuge.

Wormseed,	2 ounces.
Valerian Pulverized,	$1\frac{1}{2}$ “
Rhubarb,	$1\frac{1}{2}$ “
Pink Root,	$1\frac{1}{2}$ “
White Agaric,	$1\frac{1}{2}$ “

Boil in sufficient water to yield three quarts of decoction, and add to it thirty drops Oil Tansy, forty-five drops Oil Cloves, dissolved in Alcohol one quart.

Mix and filter.

German Worm Tea.

Manna,	1 ounce.
Fennel Seed,	$\frac{1}{2}$ “
Senna. Alex,	$\frac{1}{2}$ “
Pink Root,	$\frac{1}{2}$ “
Boiling Water to make,	1 pint.

Macerate drugs with boiling water for one or two hours, and add enough boiling water to make equivalent to that lost by evaporation.

Dose, teaspoonful to one-half ounce, according to age.

Frey's Vermifuge.

Castor Oil,	1 ounce.
Aro. Syrup Rhubarb,	1 ounce.
Oil Wormseed,	30 drops.
Croton Oil,	3 drops.
Mix.	

Powder of Pink Root, Savine and Senna.

Pulverized Pink Root,	40 grains.
“ Senna,	40 “
“ Savine,	12 “

Mix and make six powders.

Dose, one every morning till three are taken, then give a dose Castor Oil ; if effect is not produced give remainder in same manner.

Male Fern Vermifuge.

Fluid Extract Male Fern,	4 ounces.
Fluid Extract Pink Root,	2 “
Alcohol,	2 “
Glycerine,	2 “

Simple Elixir to make 1 pint.

Dose, teaspoonful to tablespoonful, followed after three doses with Castor Oil, or some gentle laxative.

Elixir Santonin.

Solution Santonate of Soda,	4 ounces.
Alcohol,	4 “
Simple Elixir,	8 “

Mix and filter.

Each fluid drachm contains two grains of Santonin.

Powder of Santonin.

Santonin, 6 grains.

Sugar, 15 grains.

Mix. Divide into six powders.

Give one powder night and morning to a child five years old; follow with a mild Laxative.

Santonate of Soda.

Santonin in fine powder, 512 grains.

Caustic Soda, 512 grains.

Distilled Water, 8 ounces.

Heat on sand bath until Solution is complete.

CHAPTER XIII.

PART I.

HOSPITAL PRACTICE.

In Acute Shock of Syncope.

Am. Carbonat,	gr. x.
Sp. Chloroformi,	3 ss.
Aquæ, ad.,	℥ i.

Sig.—At a draught.—*Fothergill.*

Profuse Diarrhœa.

Am. Carbonat,	gr. v.
Tinct. Opii,	minims x.
Inf. hæmatoxyli,	℥ i.

Sig.—This amount every three or four hours.—*Fothergill.*

Night Sweats.

Acid Sulphurici,	3 ijss.
Tinct. Opii,	3 j.
Syrupi Aurantii,	℥ j.
Aquæ ad,	℥ viij.

Sig. Two tablespoonfuls three times a day.

The above prescription is also very useful in summer diarrhœa, and as a prophylactic against painter's colic.

The Treatment of Anorexia.

M. Hurchard has had frequent opportunities of administering the following prescription to patients in whom it is necessary to stimulate the appetite :

Water,	(℥viiij).
Peppermint Water,	} aa. (℥ijss).
Tincture of Gentian,	
Tincture of Bitter Orange Peel,	
Tinc. of Stellate Anise Seed,	
Compound Tinct. of Cardamoms,	(m xlvi.)
Bitter Drops of Balsam,	(3 ss).

Filter. Teaspoonful to be taken after each meal.—*Farguharson*.

MIXTURES FROM THE PHARMACOPEIA OF THE PENNSYLVANIA HOSPITAL.

Mixture of Sulphate of Cinchonia.

Sulphate of Cinchonia,	12 grains.
Dilute Sulphuric Acid,	25 minims.
Peppermint Water to make,	1 fluid ounce.

Dose.—One to four teaspoonfuls.

Compound Ether Mixture.

Hoffmann's Anodyne,	2½ drachms.
Tincture of Lobelia,	½ drachm.
Camphor Water,	5 drachms.

Dose—One to two teaspoonfuls.

Acid Gentian Mixture.

Dilute Nitro-Muriatic Acid,	1 drachm.
Compound Infusion Gentian, q. s.	
- to make,	1 ounce.

Dose.—Two teaspoonfuls.

Mixture of Phosphoric Acid and Iron.

Tincture Chloride of Iron,	1 drachm.
Dilute Phosphoric Acid,	6 drachms.
Syrup,	6 “

Dose.—One teaspoonful.

Acid Mixture of Iron.

Sulphate of Iron,	2 grains.
Sulphate of Magnesium,	1½ drachms.
Dilute Sulphuric Acid,	15 minims.
Infusion Quassia, q. s. to make	1 ounce.

Dose.—One teaspoonful.

Mixture of Acetate of Iron.

Tincture Chloride of Iron,	20 minims.
Dilute Acetic Acid,	20 “
Solution Acetate Ammonia, q. s.	
to make,	1 ounce.

Dose.—Two to four teaspoonfuls.

Aperient Iron Mixture.

Sulphate of Iron,	2 grains.
Sulphate Magnesium,	2 drachms.
Water,	1 ounce.

Dose.—One tablespoonful.

Compound Chalk Mixture.

Chalk Mixture,	5 drachms.
Tincture Catechu,	1½ “
Tincture Opium, Camphorated,	1½ “

Bitter Mixture of Potassium Iodide.

Iodide Potassium,	1 drachm.
Tincture Quassia,	$\frac{1}{2}$ ounce.
Syrup,	$\frac{1}{2}$ “

Dose.—One teaspoonful.

Emulsion of Turpentine Oil.

Oil of Turpentine,	4 drachms.
Powdered Gum Acacia,	2 “
Syrup,	2 “
Water to make	2 ounces.

Mix the Powder with the Oil; add one-half ounce of Water, and stir till the emulsion is formed, then add the remainder of the Water and Syrup.

Oil of Turpentine is considered one of the most troublesome bodies to emulsify; prepared by this form there is no difficulty.

Meig's Mixture of Gentian and Iron.

Citrate of Iron and Ammonia,	1 part.
Fluid Extract of Gentian.	$\frac{1}{2}$ “
Compound Spirits of Lavender,	8 parts.
Alcohol,	4 “
Sugar,	12 “
Water sufficient to make	64 “

Mix the fluid extract with eight parts of water; add the Compound Spirits of Lavender, treat this with Hydrated Oxide of Iron, and filter; mix the other ingredients with the filtrate and repeat the filtration if necessary.

Astringent Acid Mixture.

Aromatic Sulphuric Acid,	40 minums.
Extract Logwood,	1 drachm.
Tincture Opium, Camphorated,	4 drachms.
Syrup Ginger, q. s. to make	1 ounce.

, In Asthmatic Paroxysm:

Tinct. Lobelia,	oz. j.
Ammon. Iodidi,	dr. ij.
Ammon. Bromidi,	dr. iij.
Syr. Tolutan,	oz. iij.
M.	

Sig.—A teaspoonful every one, two, three or four hours.

Of this prescription Dr. Bartholow says: "It gives relief in a few minutes, and sometimes the relief is permanent."

Acute Bronchitis.

Vini Ipecacuanhæ,	dr. ij.
Liq. Potassii Citratis,	oz. iv.
Tinct. Opii Camphorataë,	
Syrupi Acaciæ,	aa oz. j.
M.	

Sig.—A tablespoonful thrice daily in the first stage of ordinary Acute Bronchitis.

This union of the sedative effects of opium with the excito-secretory action of the Ipecacuanhæ on the congested mucous membrane has been found very serviceable.

Anodyne Liniment.

(A valuable Anodyne Liniment.)

Chloroformi,

Tr. Aconit,

aa \bar{z} i.

Tr. Sapo Comp.,

 \bar{z} ii.

M. Sig.—Use externally.

This makes a neat preparation, and is most serviceable in arthritic rheumatism, intercostal or temporal neuralgic pains, etc.

Facial Erysipelas.

Quiniæ Sulph.,

dr. ss.

Belladonnæ Ext.,

gr. iij.

M.

Ft. Pil. No. X.

Sig.—One every four to six hours.

Simple Remedy for Chafe.

Bathe the parts in tepid water, dry well with soft cloths, and apply, by means of a soft sponge or cloth, the following:

Acetate of Zinc,

15 grains.

Acetate of Morphia,

2 “

Glycerine,

2 ounces.

Rose Water,

2 “

Mix, and apply to chafed parts twice or thrice a day. The solution should be diluted according to age. The above is especially applicable to chafe on the inner part of the thighs.

How to Cover the Odor of Iodoform.

(As given by one of our leading Pharmacists.)

Iodoform,	$\frac{1}{2}$ drachm.
Oil Lavender,	10 drops.
Alcohol,	2 drachms.
Glycerin,	6 ounces.
M.	

Any one who recalls the many bad smelling substances which have been proposed for this purpose will take comfort in the above.

Treatment of Chronic Eczema of the Palm of the Hand.

Especially if there is a rheumatic condition, the following lotion is almost specific and very soothing :

Bicarbonate of Soda,	2 drachms.
Bicarbonate of Potash,	1 drachm.
Glycerine,	1 to 5 drachms.
Tincture of Opium,	2 drachms.
Water,	1 pint.

For Neuralgia and Rheumatism.

Chloroform,	2 drachms.
Tincture of Aconite,	1 drachm.
Iodide of Potassium,	1 “

Mix.

Prick the skin with a fine needle over the seat of pain, with twenty or thirty punctures, and rub well with the above preparation, when immediate relief is said to follow each application, and a cure effected in a short time.

Yerba Santa Cough Mixture.

Yerba Santa,	3 ounces.
Grindelia Robusta,	1½ “
Wild Cherry,	6 drachms.
Cubebs,	2 “
Licorice,	6 “
Tar,	½ drachm.
Bromide of Ammonia,	1 “
Alcohol,	6 ounces.
Glycerine,	4 “
Water to make,	1 pint.

Dose.—One teaspoonful when needed.

PART II.

HOSPITAL PRACTICE.

Bronchitis.

℞. —Acidi Hydrocyanici Medicinalis,	60 drops.
Morphia Sulph.,	3 grains.
Tincture Sanguinaria,	$\frac{1}{2}$ ounce.
Vini Ipecac,	$\frac{1}{2}$ ounce.
Syrup Pruni Virginianæ,	$2\frac{1}{2}$ ounces.
Mistura Amygdalæ,	$2\frac{1}{2}$ ounces.

Mix.

Dose—Teaspoonful twice or thrice a day. Shake.

The above mixture will be found very useful in allaying the cough present in tuberculosis, and in all pulmonary catarrhal diseases, unattended with fever.

In neuralgia the above pill has proved especially valuable in facial neuralgia, or in cases where the disease has been caused by malaria.

ANOTHER.

Acidi Hydrocyanici,	60 drops.
Vini Antimonii,	$\frac{1}{2}$ ounce.
Syrupi Tolutan,	$\frac{1}{2}$ ounce.
Mucil Acaciæ,	2 ounces.

Mix.

Dose—Teaspoonful three times a day.

This may be used in whooping cough. Hydrocyanic acid surpasses in efficacy every other known remedy.

A Nervous Stimulant.

Moschi,	1 drachm.
Assafoetidæ,	1½ drachms.
Camphoræ Pulv.,	½ drachm.
Extracti Gentianæ,	sufficient to make 30 pills.

Dose—Take one three times a day.

Musk, when it can be obtained pure, is a powerful nervous stimulant. It is sometimes given in nervous and hysterical affections, in combination with other anti-spasmodics.

ANOTHER.

℞.—Moschi,	1 drachm.
Ether Sulph.,	1½ drachms.
Tinct. Opii,	1½ drachms.
Aqua Cinnam.,	2½ ounces.
Simple Syrup,	1½ ounces.

Mix.

Dose.—Tablespoonful three times a day.

By a combination of two or more of the anti-spasmodics, we obtain a more powerful effect in the treatment of hysterical and other nervous affections, than results ordinarily from the single administration of any one of these remedies.

Anti-spasmodic.

℞.—Tinct. Castori,	1½ ounces.
Tinct. Assafoetidæ,	1½ ounces.
Aqua Camphoræ,	1 ounce.
Spirit Ammon. Arom.,	½ ounce.
Syrup Acacia,	1½ ounces.

Mix. Dose.—Tablespoonful, as may be required.

Spasm of the Stomach.

℞.—Tinct. Valerianæ,	1 ounce.
Carb. Magnesiae,	2 drachms.
Tinct. Opii,	1 drachm.
Aqua Mentha Pip.,	3 ounces.
Olei Anisi,	40 drops.

Mix. Dose.—Teaspoonful every hour, or as often as may be necessary.

The above has been found efficacious in flatulency and to relieve cardialgia,

As a Cathartic.

℞.—Extract Aloes Pulveris,	2 drachms.
Guaiaci Pulveris,	1 drachm,
Gumbogiæ Pulveris,	1½ drachms.
Saponis,	1 drachm.

Make mass and divide into 82 pills. Take two or three at bed-time. Pills made with care of these ingredients, in the above proportions—the material being intimately pulverized and blended—constitute a most excellent ordinary purgative.

ANOTHER.

℞.—Ext. Aloes Pulv.,	½ ounce.
Gambogiæ,	1 drachm.
Rhei Pulv.,	½ drachm.
Olei Cinnamomi,	20 drops.
Syrupi Rhamni, q. s.	

Make a mass, divide into 120 pills.

The above is the favorite laxative pill of a distinguished lecturer and practitioner of Massachusetts.

In Habitual Constipation.

B. —Aloes Socat,	2 drachms.
Rhei Pulveris,	2 drachms.
Pulv. Aromat.,	40 grains.
Saponis,	1 drachm.
Syrup Rhamni, q. s.	

Make mass; divide into 60 pills. Take two at bed-time.

ANOTHER.

B. —Extract Aloes,	1 drachm.
Ipecacunhanæ Pulv.,	20 grains.
Mastich,	1 drachm.
Olei Fœniculi,	20 drops.

Make a mass; divide into 40 pills. Take one at night.

ANOTHER.

B. —Massæ Hydrarg.	$\frac{1}{2}$ drachm.
Rhei Pulv.,	$\frac{1}{2}$ drachm.
Ext. Aloes,	$\frac{1}{2}$ drachm.
Ol. Tiglii Croton,	4 drops,
Sodæ Bi. Carb.,	12 grains.
Capsici Pulv.,	12 grains.

Mix. Make 30 pills. Take one or two at bed-time.

The above is considered an excellent aperient by eminent practitioners.

Chronic Bronchitis No. 2.

Hydrocyanici Medicinalis,	1 drachm.
Liquor Potassæ,	$\frac{1}{2}$ ounce.
Infusion Columbæ,	2 ounces.
Mustura Amygdal,	4 ounces.

Mix. Dose.—A small teaspoonful three times a day.

In cases where inflammation has extended to the mucous membrane of the stomach, the above mixture will be found to exercise a happy influence in this diseased action.

Gastralgia No. 1.

Ext. Belladonnæ,	10 grs.
Acidi Hydrocyanici Medicinalis,	60 drops.
Tinct. Columbæ,	1 ounce.
Simple Syrup,	1 ounce.
Aquæ Distillatæ,	2 ounces.

Mix. Dose.—Teaspoonful every four hours.

The above combination has likewise been employed with great benefit in the treatment of *spasmodic asthma*.

Neuralgia.

Extract Hyoscyami,	$\frac{1}{2}$ drachm.
Morphiæ Sulphatis,	3 grains.
Strychniæ,	2 grains.
Pulv. Capsici,	$\frac{1}{2}$ drachm,
Zinci Sulphatis,	15 grains.

Mix. Make a mass and divide into 30 pills. Dose.—One every three or four times a day.

ANOTHER.

Extracti Hyoscyami,	$\frac{1}{2}$ drachm.
Ferri Valerianatis,	1 drachm.

Mix. Divide into 30 pills. Dose.—One three times a day.

NOTE.—The Valerianate of iron conjoined with the extract of Hyoscyamus is an excellent antispasmodic and tonic, and may be employed with great advantage for the treatment of chorea.

Whooping Cough.

B.—Acidi Hydrocyanici Medicinalis,	25 drops.
Vini Ipecacuanhæ,	2 drachms.
Syr. Tolutan,	2 ounces.
Aqua distillatæ,	3 ounces.

Mix. Dose.—Teaspoonful three or four times a day.

If the breathing is oppressed, or the symptoms present indicate the existence of bronchial inflammation, the administration of the sedative should be preceded by the exhibition of an emetic, and perhaps by the application of a few leeches to the chest.

The dose of Hydrocyanic Acid for an infant, says Dr. Roe, is about three-fourths of a minim, of Sheele's strength, gradually increased to a minim, given every fourth hour. A child of three years one minim.

Dysmenorrhœa.

R.—Extracti Belladonnæ,	8 grains.
Camphori pulv.,	1 drachm.
Sulphatis Quiniæ,	40 grains.

Mix. Make 30 pills. Dose.—One pill every hour or two till the pain ceases. In females of a nervous temperament, these pills seldom fail of affording relief.

Leucorrhœa.

The following pills are highly recommended by an intelligent and experienced practitioner, especially in weak and nervous females :

R.—Extracti Hyoscyami,	1 drachm.
Argenti Nitratis,	10 grains,
Cantharidis pulv.,	12 grains.
Sulphatis Quiniæ,	40 grains.
Mix. Make 40 pills. Dose.—One, night and morning.	

Cellulæ Dropsy.

R.—Extracti Conii,	1 drachm.
Cantharadis pulv.,	40 grains.
Hydrarg. Submur.,	30 “
Ipecacuanhæ pulv.,	20 “

Mix. Make a mass and divide into 40 pills. Dose.—One three or four times a day.

Gastralgia No. 2.

℞.—Tinct. Opii,	3 drachms.
Tinct. Capsici,	3 “
Ether Sulph.,	8 “
Tinct. Camphor,	3 “
Chloroform,	1 drachm.
Mix. Dose.—Teaspoonful, as may be required.	

The efficacy of the above medicine is much increased if taken in a wineglass of hot ginger tea.

Insomnia.

℞.—Assafoetidæ,	1 drachm.
Morphiæ Sulphatis,	3 grains.

Mix. Make 30 pills. Dose.—One or two taken at bed time.

The above pills—two to four exhibited daily—are very efficacious in arresting the dry cough which is occasionally consequent on disordered menstruation in nervous females.

Hysteria.

℞.—Ammoniæ Muriatis,	30 grains.
Opii pulv.,	10 “
Digitalis pulv.,	20 “
Scillæ pulv.,	20 “

Mix. Divide into 30 pills. Take one every six hours.

PART III.

HOSPITAL PRACTICE.

Eczema Drying Salve.

R.—Plumbi Glycerat,	1 drachm.
Ungt. Zinci oxid.,	1 ounce.
Mix.	

Kelly's Tonic.

R.—Tinct. Nucis Vomicae,	2 drachms.
Acid Nitro Muriat dil.,	3 “
Tinct. Cinch. Com.,	1½ ounces.
Tinct. Gentian Com. Q. S. ad.,	3 “
Dose.—Two drachms in water, 3 times per day.	

Hamilton's Tonic.

Strychnia Sulph.,	8 grains.
Cinchonida Sulph.,	1 ounce.
Tinct. Chlo. Ferri.,	6 ounces.
Syr. Zingiberis,	} 16 “
Acid Phosphoric, dil., each,	
Dose.—One-half to one teaspoonful 3 times per day.	

For Diphtheria.

R.—Pilocarpin Muriate,	1½ grains.
Pepsin,	½ drachm.
Acid Muriatic,	10 drops.
Aqua,	8 ounces.
Mix. Teaspoonful every hour.	

Basham Mixtures No 1.

Muriate Tinct. of Iron,	6 drachms.
Acetic Acid, dil.,	1 ounce.
Solution Acetate of Ammonia,	7 ounces.
Simple Elixir,	4 “
Water, to make,	1 pint.
Dose.—One tablespoonful after each meal.	

No. 2.

Muriate Tinct. Iron,	$\frac{1}{2}$ ounce
Acid Phos. dil.,	6 drachms
Simple Elixir,	5 ounces.
Syr. Q. S. ad.,	12 “
Dose.—Tablespoonful after each meal.	

No. 3.

Pulv. Sulph. Iron Exsic,	$\frac{1}{2}$ ounce.
Pure Carbonate Potass.,	$\frac{1}{2}$ “
Syrup,	Q. S.
Mix, and make 96 pills.	

Aphrodisiac Pill.

Quinine,	1 grain.
Ext. Damiana, solid,	3 grains.
Ext. Nux Vomica, solid,	$\frac{1}{8}$ grain.
Phosphorus,	1-100 “
Make 1 pill.	

Vermifuge.

Pomegranate Root, (fresh)	$\frac{1}{2}$ ounce.
Make a strong infusion by simmering to half a pint.	
Dose.—One-half to one ounce, fast twelve hours while the medicine is operating.	

Local Application in Irritable and Inflamed Piles.

A writer in Braithwaite's Retrospect has the following: During the past few months I have given a somewhat extended trial to the new extract of Hamamelis Virginica, called *Hazetine*. As a local application in irritable and inflamed piles, situated at the margin of the anus, where the remedy can be readily applied, I have never met with its equal. In most of the cases submitted to the treatment, the relief was immediate and permanent. My plan has been to have the part bathed three or four times a day, and a piece of lint dipped in it, kept applied to the anus during the intervals. All urgent symptoms have passed away in from twelve to twenty-four hours.

Styptic Colloid.

The Chemist and Druggist (London) says, that the following will instantly conglutinate blood, forming a consistent clot, under which wounds will readily heal:

Collodion,	100 parts.
Carbolic Acid,	10 "
Tannic Acid,	5 "
Benzoic Acid,	5 "

Mix the ingredients in the above order.

Cough Mixture in Consumption.

R.—Mist. Glycyrrhæ, Com.,	4 ounces.
Syr. Prunis Virg,	2 "
Sulph. Quinine,	32 grains.
Sulph. Morphia,	2 "
Elixir Taraxicum, Com.,	2 ounces.

Mix. Dessert spoonful every four hours.

DR. POLK.

Catarrh Remedy.

(Said to be Sage's.

Powdered Hydrastis Canadensis,	5 drachms.
Indigo,	$\frac{1}{2}$ drachm.
Powdered Camphor,	2 drachms.
Carbolic Acid,	2 "
Common Salt,	50 "

Powder the Camphor by means of Alcohol, and mix with the salt previously reduced to a fine powder. Rub the Indigo and Carbolic Acid together, mix with the Salt and Camphor, and add the powdered Hydrastis. Mix intimately without pressure in a mortar.

For Boils and Carbuncles.

Tinct. Iodine,	2 drachms.
Tinct. Aconite,	1 drachm.
Aqua,	1 "

Apply four times a day.

Night Sweats.

Fluid Extract of Belladonna,	1 ounce.
Whiskey or Brandy,	1 "
Mix. Sponge the body on going to bed.	

Palpitation of the Heart.

Tincture of Belladonna,	20 drops.
Tincture of Nux Vomica,	10 "
Aqua Camphor,	1 ounce.
Dose.—Teaspoonful in water four times a day.	

Gleet.

Sulphate of Copper,	20 grains.
Sulphate of Morphia,	10 “
Aqua, Q. S. ad.,	8 ounces.
Use as an injection three or four times a day.	

Ring Worm.

Thymol,	1 to 2 parts.
Chloroform,	8 “
Olive Oil,	24 “

Mix. The Thymol destroys the fungus. The Oil prevents irritation and rapid evaporation, while the Chloroform facilitates the absorption of the active ingredients by acting on the sebaceous glands.

White Copaiba Mixture.

Copaiba mixture,	1 ounce.
Syr. of Gum,	8 ounces.
Powdered Gum,	$\frac{1}{2}$ ounce.
Bromide of Potash,	1 “
Oil of Terragen,	24 drops.
Aqua, Q. S. ad.,	8 ounces.

Mix.

Cubeb Mixture.

Oleoresin of Cubebs,	$\frac{1}{2}$ ounce.
Bromide of Potass,	1 “
Syrup of Gum,	2 ounces.
Oil of Sassafras,	10 drops.
Aqua, Q. S. ad.,	6 ounces.

Mix.

For Asthma.

Tincture of Valerian,	1 ounce.
Sulphuric Acid,	$\frac{1}{2}$ "
Compound Spts. Lavender,	$\frac{1}{2}$ "
Spts. of Camphor,	1 "

Mix. One or two teaspoonfuls every two or three hours.

Anti-Rheumatic Mixture.

Iodide of Potash,	5 drachms.
Wine of Colchicum,	1 ounce.
Tinct. of Black Cohosh,	2 ounces.
Tinct. of Stramomum,	$\frac{1}{2}$ ounce.
Paregoric,	$\frac{1}{2}$ "

Mix. Dose.—Teaspoonful 3 times per day.

A Good Ague Remedy for Children as the bitter taste of Quinine is Completely Disguised.

Sulphate of Quinine,	20 grains.
Bi Carbonate of Soda,	30 "
Fluid Ext. of Licorice,	3 drachms.
Peppermint Water,	12 "

Mix. Dose.—Teaspoonful three or four times a day.

Epilepsy.

Bromide of Soda,	8 ounces.
Sulph. of Strychnia,	$\frac{1}{2}$ grain.
Aqua Pura,	1 pint.

Mix. Dose.—Teaspoonful three times a day.

Chronic Bronchitis.

Copaiba,	4 drachms.
Liquor Potass, .	1 drachm.
Pulv. Ext. Glycyrrhiza,	2 drachms.
Syrup of Scilla,	1 ounce.
Oil of Amygdala Amar,	10 drops.
Paregoric,	1 ounce.
Syrup of Acacia, Q. S. ad.,	4 ounces.
Dose.—Teaspoonful every three or four hours.	

Compound Bismuth Mixture.?

Subnitrate of Bismuth,	1 drachm.
Sulphate of Zinc,	18 grains.
Subacetate of Lead,	18 “
Tannin,	80 “
Rose Water,	5½ ounces.
Mix. For External use.	

CHAPTER XIV.

PART I.

TOILET ARTICLES.

NO. 29.

Superior Cologne.

Wild Ginger Root,	2 ounces.
Orris Root,	1 ounce.
Oil Neroli,	1½ drachms.
Oil Patchouly,	2 “
Oil Sandal Wood,	2 “
Oil Rose Geranium,	8 “
Oil Bergamot,	8 “
Oil Lavender,	1 drachm.
Tincture Musk,	4 ounces.
Tincture Storax,	6 drachms.
Cologne Spirits,	7½ pints.
Water,	16 pints.

Grind the roots to moderately fine powder and macerate in the Spirits two weeks, and filter; then add the oils and tinctures, and let stand one week, and add the water, and filter.

Tincture of Musk for the above:

Tonquin Musk,	60 grains.
Hot Water,	½ ounce.
Alcohol,	1 pint.

Digest the Musk in the water for three or four hours. Add the Alcohol, and macerate thirty days.

NO. 30.**Republique Cologne.**

Oil Lemon,	3 ounces and 3 drachms.
Oil Bergamot,	6 " " 6 "
Oil Lavender Flowers,	1 ounce " 1 drachm.
Oil Neroli	5½ drachms
Oil Rose,	1 " and 1 drachm.
Cologne Spirits,	4½ gallons.
Orange Flower Water,	4 pints.
Lundborg's Extract of Musk,	1 pound.

Will age faster by being kept in a warm place.

The above is, without doubt, one of the best selling colognes ever placed upon the market, and if good materials are used will not fail to give satisfaction.

NO. 31.**Cologne Water.**

Oil of Lavender Flowers,	½ ounce.
Oil of Rosemary,	¼ "
Oil of Neroli, bigarade,	1¼ ounces.
Oil of Neroli, petit grain,	1¼ "
Oil of Lemon Peel,	1¼ "
Oil of Orange Peel,	2½ "
Oil of Bergamot,	2½ "
Oil of Rose Geranium,	½ ounce.
Tincture Storax,	2 ounces.
Cologne Spirits,	26 pints.
Orange Flower Water,	6 "

Mix. Let stand thirty days, and filter.

NO. 32.**Farina Cologne Oil.**

Oil of Orange,	8 ounces.
Oil of Neroli, petit grain,	$\frac{1}{2}$ ounce.
Oil of Lavender Flowers,	$\frac{1}{4}$ “

Mix.

To make Cologne from the above, add six ounces of the Oil to one gallon of Cologne Spirits, and if desired, one quart of warm water.

Add oil to a portion of the spirits, gradually adding warm water, but lastly, balance of the spirits.

NO. 33.**Hair Tonic.**

Castor Oil,	2 $\frac{1}{2}$ ounces.
Alcohol,	1 $\frac{1}{2}$ “
Tincture Cantharides,	2 drachms.
Tincture Lobelia,	1 drachm.

Mix.

Use any perfume to suit.

NO. 34.**Perfume for Hair Oil.**

Oil of Bergamot,	1 ounce.
Oil of Rosemary,	1 drachm.
Oil of Cassia,	5 drops.
Oil of Cloves,	5 “
Oil of Rose Geranium,	10 “
Alcohol to make	4 ounces.

Mix.

NO. 35.**Bay Rum.**

Oil of Bay,	1 drachm.
Oil of Nutmegs,	5 drops.
Oil of Orange,	$\frac{1}{2}$ drachm.
Jamaica Rum,	4 ounces.
Alcohol,	2 pints.
Water to make	4 “

Cut Oils in Alcohol; add Rum and water; let stand two or three weeks, and filter through Magnesia and Charcoal.

NO. 36.**Hair Tonic.**

Tincture Cinchona Red,	8 ounces.
Glycerine,	1 ounce.
Jamaica Rum,	1 “
Tannic Acid,	$\frac{1}{2}$ drachm.
Tincture Cantharides,	2 drachms.
Tincture Capsicum,	1 drachm.
Cologne to make	9 ounces.

Apply twice a day, rubbing well into the scalp.

NO. 37.**Bandoline.**

No. 1. Quince Seed, bruised,	3 drachms.
Water,	1 pint.

Macerate at a temperature just short of boiling, with frequent agitation until a thick mucilage is formed; strain and add two ounces of good Cologne, in which thirty grains of Salicylic Acid has been dissolved, or one drachm

of Borax may be substituted for the Salicylic Acid. The Borax, if used, should be dissolved in the mucilage.

No. 2.	Irish Moss,	4 ounces.
	Water,	1 pint.

Boil and strain, when cold add two ounces of Cologne and preservative agent as above.

No. 3.	Tragacanth, 2 drachms.
	Water, 12 ounces.
	Alcohol, 4 “

Macerate twenty-four hours and strain; add perfume to taste.

NO. 38.

Calamine Lotion.

The following is the formula prescribed by the late Dr. Tilbury Fox :

Levigated Calamine,	40 grains.
Oxide of Zinc,	20 “
Glycerine,	20 drops.
Rose Water to make,	1 ounce.

The main point is to get the White Calamine, and not the Red. It is a very soothing application, and is a great favorite with ladies who have flushed faces. It should be applied with a small, soft sponge, and allowed to dry on, the excess of powder being lightly dusted off with a soft cloth.

NO. 39.**Jaborandi Hair Tonic.**

Glycerine,	2 ounces.
Jaborandi Leaves,	4 drachms.
Cinchona Bark,	1 ounce.
Alcohol,	2 ounces.
Bay Rum,	2 “
Rose Water,	10 “

Reduce the Jaborandi and Cinchona to a moderately fine powder, and exhaust them by percolation with the Alcohol, Bay Rum and Water, mixed together. To the percolate add the Glycerine, and filter. D. C.

NO. 40.**Compound Glycerine Lotion.**

Strained Honey,	2 drachms.
Water,	3 ounces.
Cologne,	2 “
Glycerine,	6 drachms.
Alcohol,	8 ounces.
Oil Bitter Almonds,	5 drops.

Mix.

Apply with a soft sponge or napkin, while the skin is damp, wiping dry with a towel.

The above preparation is put up by a wholesale eastern house, and is one of the best of its class for chapped hands, lips and face.

PART II.

TOILET ARTICLES.

Extract Mary Stuart Bouquet No. 1.

Extract Orange from Pomade,	3 ounces.
“ Rose “ “	3 “
“ Jasmine, “ “	2 drachms.
Tincture Musk,	3 “
“ Civet,	3 “
“ Ambergris,	3 “
“ Ambrette, (1 to 8)	1 ounce.
“ Storax,	15 drops.
“ Vanilla,	3 drachms.
Oil Rose Geranium,	40 drops.
Oil Sandalwood,	30 “
Oil Lemon,	2 drachms.
Oil Ceylon Cinnamon,	5 drops.
Oil Sassafras,	2 “
Oil Bay,	3 “
Alcohol,	6 ounces.

Mix.**Extract Mary Stuart Bouquet No. 2.**

Extract Rose, (Virgin)	4 ounces.
“ “ (Second Wash.)	4 “
“ Orange, (Virgin)	8 “
Oil of Lemon,	1 ounce.
“ Rose,	15 drops.
“ Geranium,	7 “
Extract of Musk,	2 drachms.
“ Civet,	25 drops.
Alcohol,	4 pints.

Mix.

La Sonambula.

Extract of Rose, (from Pomade)	1	pint.
“ Verberna,	3	ounces.
“ Jasmin, (from Pomade)	8	“
“ Cassia,	3	“
“ Violet, (from Pomade)	8	“
“ Musk,	1	ounce.
“ Amberggris,	1	“
Oil of Lemon,	$\frac{1}{4}$	“
“ Bergamot,	$\frac{1}{4}$	“
Mix.		

Lubins Jockey Club:

Extract Rose, (from Pomade)	9	ounces.
“ Orange, (from Pomade)	9	“
Ess. Mousseline,	6	“
“ Cassia,	1	ounce.
Tincture Civet,	3	drachms.
“ Ambrette, (1 to 8)	3	“
Oil Rose,	15	drops.
“ Bergamot,	3	drachms.
“ Lemon,	$\frac{1}{2}$	drachm.
Mix.		

Extract of Wild Locust No. 2.

Extract of Rose, (Virgin)	2	ounces.
“ Vitervert,	2	“
Oil of Vervine,	20	drops.
“ Sandalwood,	$\frac{1}{4}$	drachm.
“ Cedar,	$\frac{1}{4}$	“
“ Patchouly,	$\frac{1}{4}$	“
Tincture of Civet,	$\frac{1}{2}$	“
Pure Spirits,	6	ounces.
Mix.		

Monte's Favorite.

Oil of Lemon,	4 drachms.
“ Lemette,	1 ounce.
“ Rose,	10 drops.
“ Geranium,	12 “
“ Verbena, (true)	40 “
Pure Spirits,	12 ounces.
Mix.	

Extract Louise Cary Bouquet.

Triple Extract of Rose,	32 ounces.
“ “ Tuberoze,	24 “
“ “ Orris,	12 “
“ “ Ambergris,	4 “
“ “ Musk,	2 “
Oil of Bergamot,	1 ounce.
“ Lemon,	$\frac{1}{4}$ “
Mix.	

Extract of Posey Bouquet No. 2.

Extract of Rose,	25 ounces.
“ Violet,	25 “
“ Tuberoze,	14 drachms.
“ Orange Flowers,	8 ounces.
Essential Oil of Bergamot,	4 “
Mix.	

Love's Bouquet.

Extract of Rose, (treble,)	9 ounces.
“ Violet,	9 “
“ Jasmin,	9 “
“ Patchouly,	$\frac{3}{4}$ ounce.
Tincture of Vanilla,	1 “
Mix.	

Centennial Exposition Bouquet.

Extract of Violet,	32 ounces.
“ Rose, (treble,)	16 “
“ Jasmin, “	16 “
“ Tuberose, “	16 “
“ Lavender, “	8 “
“ Orange Flowers, “	8 “
“ Patchouly, “	8 “
Tincture of Vanilla,	8 “
“ Musk Seed,	8 “
Concentrated Essence of Sandalwood,	8 “
Oil of Lemon,	2 drachms.
“ Citronella,	1 drachm.
Mix. An elegant perfume for the handkerchief.	

Theresa Titien's Bouquet.

Extract of Jasmin,	16 ounces.
“ Violet,	16 “
“ Cassia Flowers,	8 “
“ Rose, (treble,)	8 “
“ Orange Flowers, “	8 “
Tincture of Ambergris,	1 ounce.
“ Musk,	1 “

Mix.

Eau de Portugal.

Oil of Bergamot,	1½ drachms.
“ Lemon,	1½ “
“ Rose,	15 drops.
“ Neroli,	10 “
Alcohol,	2 pints.

Mix.

Ristori Bouquet.

Essence of Orange Flowers,	16	ounces.
“ Acacia Flowers,	16	“
“ Tuberose,	16	“
“ Rose Treble,	16	“
Tincture of Orris Root,	8	“
“ Ambergris,	8	“
Oil of Neroli,	$\frac{1}{2}$	drachm.
“ Lavender,	$\frac{1}{2}$	“
“ Rose,	$\frac{1}{2}$	“

Mix. This is a durable perfume.

Magnolia Water.

Ext. Tuberose,	8	ounces.
“ Orange Flowers,	6	“
“ Violet,	6	“
Tincture Musk,	2	“
Essence of Cedrat,	8	drachms.
Oil Bitter Almonds,	$\frac{1}{2}$	drachm.
Oil Rose,	20	drops.
Rose Water,	3	ounces
Orange Flower Water,	4	“
Deodorized Alcohol,	5	pints.

Mix, and filter.

Violet Water.

Extract Violet,	4	ounces.
“ Cassia,	2	“
Rose Water,	4	“
Deodorized Alcohol,	80	“

Mix and shake well together, and filter.

Lavender Water.

Oil of Lavender,	1½ ounces.
“ Lemon,	3 drachms.
“ Sage,	½ drachm.
“ Orange Peel, (sweet)	1 “
“ Lemon Thyme,	4 drachms.
“ Nutmeg,	1 drachm.
Tincture of Benzoin,	1 ounce.
“ Musk,	½ “
Soft Water,	1 pint.
Deodorized Alcohol,	½ gallon.
Mix.	

Florida Water.

Oil Bergamot,	1 ounce.
Tincture Benzoin,	1 “
Alcohol,	4 pints.
Mix.	

To this may be added any amount of water to suit the grade required.

Prairie Flower Water.

Essence of Rose Treble,	16 ounces.
“ Orange Flowers,	16 “
“ Jasmin,	12 “
“ Acacia Flowers,	8 “
Tincture of Vitivert,	8 “
“ Tonka Bean,	6 “
“ Vanilla,	2 “
“ Ambergris,	2 “
Oil of Bergamot,	1 ounce.
“ Neroli,	1 drachm.
“ Bitter Almonds,	1 “
“ Cloves,	1 “
Alcohol,	2½ gallons.
Mix.	

Bay Rum.

(Barbers Improved.)

Oil of Bay,	6 fl. drachms.
“ Pimento,	1 fl. drachm.
Acetic Ether,	1 ounce.
White Castile Soap, (powdered)	4 drachms.
Alcohol,	12 pints.
Water,	10 “
Mix, and allow to stand one week, then filter.	

Milk of Almonds.

Spermaceti,	$\frac{1}{2}$ ounce.
White Wax,	$\frac{1}{4}$ “
Castile Soap, (white)	$\frac{1}{4}$ “
Bitter Almonds, (blanched)	5 ounces.
Alcohol,	6 “
Oil of Bitter Almonds,	5 drops.
“ Bergamot,	1 drachm.
Water, (distilled)	1 pint.

Rub the Almonds with the Water, and dissolve the Spermaceti, Wax and Soap, by water bath; mix the two, then add the Alcohol (in which the oils have been dissolved) slowly, then strain.

Hagan's Magnolia Balm.

Pure Oxide of Zinc,	1 ounce.
Aqua Rose,	4 ounces.
Glycerine,	1 drachm.
Perfume,	Q. S.
Mix.	

Hair Lotion.

Orange Flower Water,	15 ounces.
Glycerine,	1 ounce.
Tincture of Cantharides,	2 drachms.
Aqua Ammonia,	1 drachm.
Oil Bergamot,	Q. S.
Mix.	

Hair Curling Fluid.

Carbonate of Potassia,	30 grains.
“ Ammonia,	60 “
Glycerine,	2 drachms.
Alcohol,	12 “
Water,	18 ounces.
Mix. Color and perfume to please the taste.	

Champion Pomade.

Butter of Coca,	4½ ounces.
Purified Lard,	22½ “
Melt these over a gentle fire and then add:	
Oil of Mace,	1 ounce.
Strain and add, while warm:	
Rose Water,	4 ounces.
Tincture of Cantharides,	½ ounce.
Stir until cool and finally add:	
Oil of Jasmin,	1½ drachms.
Oil of Bergamot,	8 “
Oil of Lemon,	1 drachm.
Oil of English Lavender,	1 “
Oil of Cloves,	40 drops.
Oil of Rose,	36 “
Oil of Neroli,	20 “
Oil of Cinnamon,	10 “
Oil of Bitter Almonds,	4 “
Tincture of Musk,	24 “
Mix, and color with saffron.	

Indian Pomade.

White Wax,	6 drachms.
Spermaceti,	12 “
Castor Oil,	1 ounce.
Oil of Sweet Almonds,	4 ounces.
Glycerine,	1 ounce.
Ext. Reseda,	12 drachms.
Aqua Coloniensis,	2 “

Mix.

Camphor Pomade.

Purified Lard,	1 pound.
White Wax,	$\frac{1}{4}$ “
Camphor,	$1\frac{1}{2}$ ounces.
Oil of Cloves,	20 drops.
Oil of Bitter Almonds,	1 drachm.

Dissolve the Camphor in a portion of Alcohol, and add to the Lard while warm, add other ingredients when nearly cold, and mix thoroughly.

Rose Pomade.

Prepared Lard,	1 pound.
Spermaceti,	2 ounces.
Oil of Sweet Almonds,	8 “
Oil of Rose,	} 20 drops.
Oil of Geranium, of each,	
Alkanet Root,	$\frac{1}{2}$ drachm.

Melt the Lard and Spermaceti together at a low temperature, triturate in a mortar until smooth and white, and add the Oil of Almonds previously digested with the Alkanet Root and strained, and lastly the oils.

PART III.

TOILET ARTICLES.

Royal Bouquet.

Extract of Rose (from pomade),	1 pint.
Spirit of Rose, triple,	$\frac{1}{2}$ "
Extract of Jasmine,	$\frac{1}{2}$ "
Extract of Violet,	$\frac{1}{2}$ "
Extract of Verbena,	$2\frac{1}{2}$ ounces.
Extract of Cassia,	$2\frac{1}{2}$ "
Otto of Lemons.	$\frac{1}{2}$ ounce.
Otto Bergamot,	$\frac{1}{2}$ "
Extract of Musk,	1 "
Extract of Ambagris,	1 "

Italian Nosegay.

Spirit of Rose (from pomade),	2 pints.
" of Rose (triple),	1 pint.
" of Jasmine,	1 "
" of Violet,	1 "
Extract of Cassia,	$\frac{1}{2}$ "
" of Musk,	2 ounces.
" of Ambergris,	2 "

Silver Hair-Dye.

1st Solution.	{ Nitrate of Silver,	1 ounce.
	{ Water in blue bottle,	9 ounces.
2d Solution.	{ Sulphuretof potassium,	1 ounce.
	{ Water, white bottle.	8 ounces.

Twiggs' Hair Dye.

Sugar of Lead,	1 drachm.
Milk of Sulphur,	2 drachms.
Rose water,	4 ounces.
Glycerine,	1 ounce.

Mix.

This is the general composition of the various popular hair-dyes and restoratives, which contain a yellowish sediment, and are not oily.

ANOTHER.

Owing to the unpleasant smell of the mordant (white bottle) in the foregoing, a substitute is made by pouring boiling water, $\frac{1}{2}$ pint, upon 3 ounces of bruised galls. When cold, strain and bottle. For the blue bottle, add to solution as above ammonia, until the precipitate formed is redissolved.

Orfila's Hair-Dye.

Take Litharge,	3 parts.
Quicklime,	2 parts.

Mix thoroughly, and keep in a well-stopped bottle.

When used, mix with water or milk. Apply to the hair, and envelope in an oil-skin cap for 5 or 6 hours.

To Remove Superfluous Hair.

Quicklime,	16 parts.
Pearlash,	2 "
Liver of Sulphur,	2 "

Mix thoroughly, and keep in a tight bottle. When used mix to the consistency of a paste, and after it has remained on 2 or 3 minutes remove with a wooden knife.

To Cleanse Long Hair.

Beat up the yolk of an egg with a pint of soft water. Apply it warm, and afterwards wash it out with warm water.

American Shampoo Liquor.

Rum,	3 quarts.
Alcohol,	1 pint.
Water,	1 pint.
Tincture Cantharides,	$\frac{1}{2}$ ounce.
Carbonate of Ammonia,	$\frac{1}{2}$ ounce.
Salt of Tartar,	1 ounce.

Rub it on, and afterwards wash with water. By omitting the salt of tartar it nearly resembles the Balm of Columbia.

Kalydor for the Complexion.

Bleached bitter almonds,	1 part.
Rose water,	16 parts.

Mix and strain, then add 5 grains of bichloride of mercury to every 8-ounce bottle of the mixture, and scent with rose or violet.

Bouquet Sauve.

Extract of Tuberose,	1 pint.
“ of Cassia,	1 “
“ of Jasmine,	1 “
“ of Rose (from pomade),	1 “
“ of Vanilla,	5 ounces.
“ of Musk,	2 “
“ of Ambergris,	2 “
Otto of Bergamot,	1 drachm.
Otto of Cloves,	1 “

Glycerine and Cantharides Lotion.

Rosemary water,	1 gallon.
Spirits of Sal Volatile,	1 ounce.
Tincture of Cantharides,	2 ounces.
Glycerine,	4 ounces.

To be used with a sponge or soft brush twice a day when the hair is falling off.

Lotion for Freckles.

Corrosive Sublimate,	5 grains.
Muriatic Acid,	80 drops.
Lump Sugar,	1 ounce.
Alcohol,	2 ounces.
Rose Water,	7 ounces.

Apply night and morning.

ANOTHER.

Sal Ammoniac,	2 drachms.
Cologne Water,	1 ounce.
Soft water,	1 pint.

Mix.

Imitation Essence of Wallflower.

Extract of Orange flowers,	1 pint.
Extract of Vanilla,	$\frac{1}{2}$ "
Spirit of Rose,	1 "
Extract of Orris,	$\frac{1}{2}$ "
Extract of Cassia,	$\frac{1}{2}$ "
Essential Oil of Almonds,	$\frac{1}{4}$ drachm.

Allow the mixture to be made for 2 or 3 weeks prior to putting it up for sale.

Bloom of Roses.Dissolve Cinnamon, $\frac{1}{2}$ ounce.Strong Ammonia, $\frac{1}{2}$ ounce.

Let stand for two days, then add:

Rose water, 1 pint.

Spirit of Rose (triple) $\frac{1}{2}$ ounce.

Mix and set aside for a week, then pour off the liquid from any sediment that may be present.

Imitation Essence of Violet.

Extract of Cassia, 1 pint.

Extract of Rose, $\frac{1}{2}$ pint.Tincture of Orris, $\frac{1}{2}$ pint.Extract of Tuberose, $\frac{1}{2}$ pint.**Mix.**

Cologne Water.

Oil Neroli, 2 drachms.

Oil Orange peel, $\frac{1}{2}$ ounce.

Oil Citron, 1 drachm.

Oil Bergamot, 2 drachms.

Oil Lavendar, $\frac{1}{2}$ drachm.Oil Rosemary, $\frac{1}{2}$ drachm.

Oil Cinnamon, 1 scruple.

Cardamoms powdered, 2 drachms.

Balsam of Peru, 2 drachms.

Rectified spirits, 7 pounds.

Macerate 10 days, then distil 6 pounds with a gentle heat.

PART IV.

TOILET ARTICLES.

Aromatic Spirits of Ammonia.

Prescriptions sometimes call for this article, made after the formula set forth by the British Pharmacopeia:

Carbonate of Ammonia,	8 ounces.
Strong Liquor of Ammonia,	4 fl. “
Volatile Oil of Nutmeg,	4 fl. drachms.
Oil of Lemon,	6 fl. “
Rectified Spirit,	6 pints.
Water,	3 “
Mix and distil	7 pints.

The product is excellent, and very agreeable.

Aromatic Vinegar, No. 1.

Strong Acetic Acid,	1 lb. avoird.
Rectified Spirits,	2 fl. ounces.
Camphor, crushed small,	2½ “
Oil of Cloves,	1½ drachms.
Oil of Rosemary,	1 “
Oil Bergamot, Oil Cin- namon, Oil Lavender, } of each,	½ drachm.
Oil Pimento, Neroli, }	

Mix in a stoppered bottle, and agitate until all the Camphor is dissolved.

Aromatic Vinegar No. 2.

Camphor,	1 ounce av.
Oil of Cloves,	1 drachm.
Oil of Cedrat and Lavender, each,	40 grains.
Oil of Bergamot and Thyme, “	20 “
Oil of Cinnamon,	10 “
Glacial Acetic Acid,	$\frac{1}{2}$ pound.
Mix in stoppered bottle.	

Henry's Aromatic Vinegar.

This resembles the preceding, except in being strongly scented with Oil of Cloves, Rosemary and Lavender.

Acetic Perfumes.

The stronger Aromatic or Perfumed Vinegars fall under this class of preparations, as do also various spirits and water to which a marked acetic odor has been given by the addition of concentrated Acetic Acid. The latter may be conveniently prepared by simply adding 1 to $1\frac{1}{2}$ fluid ounces of Glacial Acetic Acid to each $\frac{1}{2}$ pint of scented spirit. For Acetic Eau de Cologne and other like perfumes, $1\frac{1}{4}$ to 2 ounces of Acid per pint is generally sufficient.

Fine Smelling Salts.

Carbonate of Ammonia, crushed,	1 lb. av.
Oil of Lavender,	1 fl. oz.
Oil of Bergamot,	1 “
Oil of Cloves,	2 fl. drach's.
Oil of Cassia,	1 fl. drachm.

Rub them thoroughly together, sublime at a very gentle heat into a well cooled receiver, and at once put the product into a well stoppered bottle or bottles. The sublimation may be omitted, but the quality of the product suffers. This is varied, in some samples, by substituting 1 ounce of Oil of Lemon, or a little of the Oil of Rosemary, and Sweet Flag for the Oils of Cloves and Cassia, or by adding (after sublimation) a dash of two or three drops of essence per bottle.

A Nice Cold Cream.

White Wax,	1 ounce.
Spermaceti,	1 “
Oil of Almonds,	$\frac{1}{4}$ pint.

Melt. Pour the mixture into a wedgewood mortar which has been heated by being immersed in hot water; add, gradually,

Rosewater, 4 fl. ounces,
and stir until an emulsion is formed, and afterwards until the whole is nearly cold. Put in pots. This cream may be perfumed with Bergamot or Lavender.

Ammoniacal Lavender Water.

The following receipt for Ammoniacal Lavender Water is officinal in France:

English Lavender,	1 fl. ounce.
Spirits of Ammonia (caustic),	$1\frac{1}{2}$ pints.

Mix.

It is useful as a stimulating, pungent scent, very serviceable in fainting and headache.

CHAPTER XV.

OINTMENTS AND LINIMENTS.

Black Oil Liniment.

Best Alcohol,	2 ounces.
Tincture of Arnica,	2 ounces.
British Oil,	2 “
Oil of Tar,	2 “
Sulphuric Acid, added slowly,	$\frac{1}{2}$ fl. oz.

This liniment will be found useful when much inflammation exists.

Steer's Opodeldoc Liniment.

White Castile Soap, cut small,	2 pounds.
Camphor,	5 ounces.
Oil of Rosemary,	1 ounce.
Oil of Origanum,	2 ounces.
Rectified Spirit,	1 gallon.

Dissolve in a corked bottle by the heat of a water bath, and when considerably cool, strain, and then add liquor of Ammonia, 11 ounces. Immediately put in bottles, cork close and tie with bladders. It will be very fine, solid and transparent when cold.

Chrysophanic Acid Ointment.

Chrysophanic Acid,	150 grains.
Paraffinoid q. s. to make,	$3\frac{1}{8}$ ounces.

Glycerine Ointment.

(D. C.)

Oil of Almonds,	17 ounces.
White Wax,	2½ “
Spermaceti,	6⅔ “
Glycerine,	1⅓ “
Rose Water,	6⅔ “
Borax,	45 grains.
Volatile Oil of Cloves,	5 minims.
Volatile Oil of Rose,	15 “
Tragacanth,	30 grains.

Melt the Wax and Spermaceti in the Oil of Almonds, on a water bath. Dissolve the Borax in the Rose Water, and heat the solution to 180° Fah. Dissolve the Tragacanth in the Glycerine. Mix the two solutions, and add, with constant stirring, to the melted fat as it cools. Lastly, incorporate the volatile oils.

Rother's Soap Liniment.

Castile Soap, dry, in No. 12 powder,	24 ozs.
Camphor,	12 ozs.
Oil of Rosemary,	3 fl. ozs.
Water,	3 pints.
Stronger Alcohol,	10½ “

Mix the water with half a pint of the Alcohol in a capacious vessel; add the Soap and apply heat until solution has occurred; to this add 4 pints of Alcohol. In the remaining 6 pints of Alcohol dissolve the Camphor and Oil; to this add the solution of soap. Mix. Let the impurities (coloring matter of the soap) subside, and filter.

This is vastly superior to the officinal process.

Compound Ointment of Mercury.

White Wax,	1 1-6 ounce.
Cocoa Butter,	1 1-6 “
Oil of Almonds,	1 “
Carmine No. 40, q. s.	
Volatile Oil of Rose, q. s.	

Melt the Wax, Cocoa Butter and Oil together, and mix. When cold, add the Volatile oil and the Carmine, previously triturated with a drop of Water of Ammonia. A minute quantity of Carmine only is required.

Ointment Sulphurated Potash.

(Br.)

Sulphurated Potassa,	1 $\frac{2}{3}$ ounces.
Prepared Lard,	32 “

Mix.

Petroleum Liniment.

Dr. B. A. Penn, in the *Medical Brief*, recommends the following as a good and very cheap family liniment:

Kerosene,	2 pints.
Gum Camphor,	1 ounce.
Cayenne Pepper,	$\frac{1}{2}$ “

Mix.

He also found that Kerosene is an excellent solvent for Iodine, and the solution makes an excellent spray when used in an atomizer. It gives immediate relief in sore throat, i. e., inflammation of the fauces and soreness in the larynx. It is also good in nasal catarrh when the secretions are offensive.

Compound Calomine Ointment.

Camphor,	2 drachms.
Acetate of Lead,	2½ ounces.
Red Lead,	2½ “
Calamine, in fine powder,	2½ “
Litharge, in fine powder,	5 “
White Lead,	5 “
Olive Oil,	6 “
Suet,	10 “

Mix intimately the Zinc and Lead preparations, and incorporate with the Suet and Olive Oil and Camphor previously melted together.

Benzoated Oxide of Zinc Ointment.

(Kemp.)

Lard,	1⅔ ounces.
Olive Oil,	1⅔ “
White Wax,	¾ ounce.
Spermaceti,	¾ “
Oxide Zinc,	¾ “
Benzoin,	75 grains.

Mix carefully.

The following is said to be

Low's Magnetic Liniment.

Oil of Turpentine,	90 parts.
Tincture Capsicum,	120 “
Spirits of Camphor,	960 “
Stronger Water of Ammonia,	90 “
Alcohol (sp. gr. 820)	180 “
Oil of Sassafras,	6 “
Fl. Ext. Sassafras,	40 “

Boracic Acid Ointment.

Boracic Acid is often directed to be made into an ointment with Vaseline or other urgent, and the task of making a smooth and even preparation is not an easy one. It may be accomplished, however, by rubbing the acid with enough glycerine to make a soft paste, heating slightly over the flame of a spirit lamp or gas jet, and then adding the urgent, and stirring until thoroughly mixed.

McMunn's Elixir Opium.

Put 5 pounds of Opium, cut into small pieces and dried, into a strong, glass jar with a wide mouth, and pour over it sufficient Sulphuric Ether to cover it well. Stop the jar tightly, set away in a cool place and stir daily, taking care to break down all lumps. At the end of a week drain off the ether, replacing with fresh, and repeat the stirring, etc., for another week, and drain off; turn the jar on its side and leave open, so that the last traces of ether may evaporate, or, better still, expose the opium, spread out to the open air for a few days. Put into a tin boiler four gallons of rain or distilled water, raise to a temperature of about 180° (not higher), and stir in the opium. Considerable ebullition will take place, owing to the rapid gasification of the residual ether, and when this has ceased, raise the heat and bring to a boil, and maintain ebullition for ten or twelve minutes, with occasional stirring. Let cool, and set away for 24 hours, strain through a coarse linen cloth, and add sufficient boiling water to the colate.

to make four gallons. Put the fluid into earthenware jars holding two gallons each, set aside for one week, and at the expiration of this time, carefully dip or siphon off the limpid fluid. Drain off and express all fluid in the residue, filter and add to the clear fluid, and finally add 22 quarts of alcohol of 80°, mixing thoroughly. Again let stand for several days or weeks, and when sediment ceases to fall, siphon off or decant the clear fluid, and bottle.

This is said to be a copy of the original formula found among the papers of Dr. Chilton, after his death.

Belville Ointment.

Calomel,	5 ounces.
Acetate of Lead,	2½ “
Red Oxide Mercury,	1⅔ “
Paraffinoid,	25 “
Mix.	

Diachylen Ointment.

Lead Plaster,	2 ounces.
Olive Oil,	1⅓ “
Volatile Oil of Lavender,	15 drops.

Mix. Melt the Lead Plaster over a water bath, and then add the Olive Oil. Continue the heat for ten minutes, remove the vessel from the water bath, stir until it begins to set, and then add the Volatile Oil of Lavender, and continue stirring the ointment until cold.

Cucumber Ointment.

Oil of Sweet Almonds,	7 fl. ounces.
White Wax,	5 drachms.
Glycerine	1 fl. ounce.
Green Cucumbers,	4 pounds.

Cut the cucumbers in small pieces, mash them in a wedgewood mortar, let them macerate in their own liquor for 12 hours, express and strain. Melt the Almond Oil, Spermaceti and Wax together by means of a water bath, add to it the strained liquor, stirring constantly, so as to incorporate the whole together. Set aside in a cool place (an ice chest preferred) till it becomes hard, then beat with a wooden spoon, so as to separate the watery portion of the cucumbers from the ointment. Pour off the liquor thus obtained and mix the Glycerine with the ointment without the aid of heat, by working it with the hands until it becomes thoroughly incorporated. Put up in four ounce jars, cover with a layer of rose water, and set aside in a cool place.

The ointment prepared in this way will keep sweet and nice for twelve months. It is much esteemed by physicians in the south and southwest.

Magic Liniment.

Alcohol,	1 quart.
Gum Camphor,	4 ounces.
Turpentine,	2 “
Oil of Origanum,	2 “
Sweet Oil,	1 ounce.
Mix.	

Ointment of Oxide of Zinc.

A very smooth ointment can be made from the ingredients composing the officinal Oxide of Zinc Ointment, if the oxide is first triturated and mixed with glycerine in a mortar, and after rubbing sufficiently long to produce a uniform mixture of the consistence of syrup, it is incorporated with the lard. This will produce an ointment that is of satisfactory appearance, and does not become rancid.

A Substitute for Neutral Mixture.

A good substitute can be made by placing the solid ingredients employed in making the Solution of Citrate of Potassium in a mortar, and rubbing them together with a small quantity of fresh lemon peel, adding the water and straining through muslin. To each ounce of the solution 5 grains of sugar are added.

Judkins' Ointment.

Linseed Oil,	1 pound.
Olive Oil,	1 ounce.
Red Lead,	4 “
Borax,	$\frac{1}{2}$ “
Acetate of Lead,	$1\frac{1}{2}$ ounces.
Oil of Turpentine,	1 drachm.

Boil the first two oils together on a coal fire for four hours, then, after removing them from the fire, add, with stirring, the Red Lead, Borax and Acetate of Lead. When the mass has cooled down to blood heat, add the Oil of Turpentine.

Liniment of Iodine and Ammonia.

Tincture Iodine,	2 ounces.
Water of Ammonia,	2 " or q. s.
Ether,	4 "
Oil of Origanum,	4 "
Tincture of Aconite Root,	6 "
Soap Liniment,	—

Decolorize the Tincture of Iodine with the Ammonia Water, aided, if need be, with the Hyposulphite of Soda, then mix with the remaining components.

Compound Camphor Liniment.

Camphor,	4 ounces.
Olive Oil,	12 "
Oil Origanum,	8 "
Oil of Spike,	32 "
Water of Ammonia,	10 "

Dissolve the Camphor in the Olive Oil, and add the other ingredients.

Magic Pain Killer.

Spirits of Hartshorn,	1 ounce.
Olive Oil,	1½ ounces.
Cayenne Pepper,	2 drachms.
Laudanum,	2 "
Salt,	1 tablespoonful.
Brandy,	½ ounce.

Shake well in a bottle. Rub the afflicted part with it. It removes pains and swellings. It is a magic remedy.

A Valuable Embrocation.

Camphor, in small pieces,	½ ounce.
Alcohol,	½ pint.

Mix in a closely corked bottle. When completely dissolved, add 1 pint ox gall (which can be had of any butcher), and about 40 to 50 drops of Laudanum. Shake it well, and bottle it for use.

Wonderful Ointment—For Horses.

Oil of Spike,	2 ounces.
Oil of Origanum,	2 “
Oil of Hemlock,	2 “
Oil of Wormwood,	2 “
Sweet Oil,	4 “
Spirits of Ammonia,	2 “
Gum Camphor,	2 “
Spirits of Turpentine,	2 “

Add 1 quart 95% Alcohol, mix well together, and bottle tight.

This is an unequalled horse liniment, and by omitting the turpentine, it constitutes one of the best liniments ever made for human ailments, such as rheumatism, sprains, etc.

OINTMENTS.

A Good Base for Ointments.

Melt four ounces of White Wax in a water bath ; add an equal weight of Cosmoline and one pound of fresh Lard ; stir until all are melted ; strain the mixture and stir till cool ; do not hasten the cooling by standing in cold water. If properly made, will keep a long time. It should be kept in the cellar. MOORE.

Anderson's Soothing Ointment.

Oxide of Bismuth,	$\frac{1}{2}$ ounce.
Oleic Acid,	4 ounces.
White Wax,	$1\frac{1}{2}$ "
Vaseline,	$4\frac{1}{2}$ "
Oil of Rose,	Q. S.

Mix. Add perfume when mixture is nearly cold.

Iodoform Ointment.

Iodoform,	10 grains.
Oil of Eucalyptus,	1 drachm.
Cosmoline,	1 ounce.

Mix.

Citrine Ointment.

Mercury.	4 ounces.
Nitric Acid, C. P.	12 fluid ounces.
Neatsfoot Oil,	8 " "
Lard,	2½ pounds.

Dissolve the Mercury in the Acid. Heat the Lard and Oil to 180°, then add the dissolved Mercury all at once. Commence stirring and continue doing so until the Ointment is cold, or about of the consistency of molasses. Toward the latter end of the process, the vessel may be set in one containing cold water, thus hastening the cooling. I wish to impress it firmly upon the minds of all trying this process, that it is absolutely necessary to continue the stirring until the completion of the process. The above gives an Ointment of good consistency, bright lemon color, without disagreeable smell, and keeps.

DE PUY.

Oxide Zinc Ointment.

If you desire to use Cosmoline in place of Lard, use the same proportion of Cosmoline as formerly of Lard. In summer, add a little Yellow Wax to the Cosmoline, if it should be too soft. The Cosmoline or Vaseline may be benzoated, which will cause it to keep much longer than otherwise. But this must be done while the Cosmoline is perfectly fresh. A good formula for Zinc Ointment is the following:

Oxide of Zinc,	3 drachms.
Tincture of Benzoin,	1 drachm.
Cosmoline, or Vaseline,	15 drachms.

Melt the Cosmoline, or Vaseline; then add the Tincture of Benzoin, and heat until the Alcohol has been com-

pletely dissipated. When the liquid begins to cool, incorporate the Oxide of Zinc, in fine powder (sifted), and stir the Ointment until cold. Cooling may be hastened by setting the mortar into cold water.

Tag's Salve.

Fresh Lard,	1 pound.
White Wax,	4 ounces.
White Resin,	4 "
Balsam Fir,	1 ounce.

Melt the Lard, Wax and Resin together; add Balsam Fir, and stir till cold.

For swellings, Felons, Bunions, Cuts, etc.

Buckly's Ointment.

Vaseline,	4 ounces.
Simple Cerate,	4 "
Iodoform,	4 drachms.
Carbolic Acid,	2 "

Rub the Iodoform with the Vaseline; add Cerate; rub to a smooth mass, and lastly add the Carbolic Acid.

A useful application to inflamed surface, burning and itching of the skin.

CHAPTER XVI.

OINTMENT BASES.

Animal Fats. (Adeps.)

Lard taken from the mesentery, omentum or the kidneys of corn-fed hogs, is the best for use as the base for ointments.

It has a faint odor, a bland taste, and is neutral in action. Its specific gravity is 0.938 melting point.

The chief objection to lard as a base for ointments is its speedy oxidization. It becomes rancid so quickly, as well as emitting a very disagreeable odor and possessing an acid reaction. It is chiefly for these reasons that the petroleum products are so extensively used.

Lard, however, in spite of these drawbacks, still continues to be used very extensively, for the reason that its consistency is just what is required for a good ointment.

To prevent rancidity, benzoin, storax, tolu or peruvian balsam, etc., have been used, but as many of these articles are contra-indicated in certain skin diseases, lard, as an ointment base, has been entirely discarded by numerous dermatologists, and, as before stated, petroleum products have taken its place.

Chemically, lard is a mixture of oleine, palmitin and stearine.

Purified lard is used by perfumers in which to store for future use the delicate odor of flowers. This is called *Enfleurage*.

For this purpose the lard must be perfectly inodorous. To accomplish this the lard is heated to boiling point and alum and salt added. Care must be taken to carefully remove the scum as it arises. When perfectly clear it is allowed to cool, and then washed with cold water until all traces of salt and alum have disappeared. It is then remelted, in order to throw off all traces of water by evaporation. Upon cooling it is ready for the storage of odors.

Tallow Suet.

[Sevum, U. S. P.]

Mutton suet, when pure, is nearly an inodorous fat, neutral, smooth, and gradually tends to rancidity upon exposure to the air. Its melting point is 46° to 50° C. It consists of seventy per cent. of stearine and palmitin, thirty per cent. of oleine, and a trace of hircine. Its purification is effected in the same manner as with lard, and, when so treated, it is one of the best of applications to excoriated surfaces in use. It serves an admirable purpose for stiffening other fats or oils, and it is used very liberally in the preparation of the various ointments.

How to Test Lard.

If it is desirable to test lard in order to find whether it is adulterated with vegetable oils, the following is said to be a good plan:

Dissolve a portion of the lard in chloroform and soak the liquid with a solution of sodium molybdate in nitric acid. If the lard is pure the color of the mixture remains unchanged, while if vegetable oils are present the molybdate solution is reduced and assumes a green color, which is the more intense as the more vegetable oil is present. On saturating this liquid with ammonia the green color changes to blue, while with pure lard no color is developed even after the addition of the ammonia.

Spermaceti.

[Cetaceum. U. S. P.]

Spermaceti occurs in white, scaly, crystalline masses of a neutral reaction, and it possesses a slight fatty odor. Its melting point is about 50° C. It contains small quantities of oil, which cause it to become yellow by exposure to the air as well as to become rancid and acid. Chemically it is nearly pure cetine (cetyl palmitate). It is an ingredient of the officinal Ceratum, Cetacei and Unguentum Aqua Rosae, and of the various cold creams.

Lanoline.—Wool Fat.

This substance, though not chemically a fat, is made by emulsifying wool fat with alkalies, treating in a centrifugal machine and subjecting to further purification. Chemically it is a mixture of

cholesterine and ethers of the fatty acids. It was used by the ancients, and had a place more recently in the Spanish Pharmacopœia. Its use has been revived of late, owing to its property of absorbing water and glycerine. A great diversity of views exist as to its utility as an ointment base, and on the whole we believe that its use at the present time is on the decline. It is very sticky and not easy of application to the skin. Its adhesive qualities render it useful as an addition to some ointments, but its doubtful advantages and high price are against its extensive use.

Cocoanut Oil.—Oleum Cocois.

This oil is obtained from the cocoanut tree—(*cocos nucifera*.) It has a peculiar odor and a mild and bland taste. It contains five fatty acids, palmitic, myristic and lauric, together with capric caprylic and capronic acids.

It is very valuable as an ointment base, and chiefly recommended for its stability, but yet it is subject to slight changes of temperature, has a low, melting point and a tendency, when solidifying, to assume the granular condition. It is, therefore, best to mix the cocoanut butter with other fats, as by this means the greater stability is rendered to the compound, and especially is this the case when we add fine mutton tallow.

It must, however, be well borne in mind that change of consistency in ointments, by the wide range of summer and winter temperature, is never overcome with any fat. It may be modified by

combination with resins or balsams, which tend to soften fats and give them the peculiar softness and smoothness of the typical ointment, even when stiffened by lowering of temperature, but in many cases these adjuncts must be rejected on account of their stimulating effects, for the simple reason that what may be thoroughly pharmaceutical may not act correctly from a therapeutical standpoint. It is sometimes a difficult matter to adjust the physical appearance and unchangable character of an ointment to its therapeutical requirements. The object, therefore, of good pharmacists, would be to look to an adjustment of ointment bases to the peculiar cases in hand. This, of course, can only be acquired by judgment and long experience.

VEGETABLE OILS.

Almond Oil.

(*Oleum Amygdalæ Expressum.*)

The specific gravity of this oil is 0.914 to 0.920. It is nearly colorless and perfectly inodorous when pure.

Olive Oil.

This is an excellent oil and one that is extensively used in pharmacy, owing to its quality of not readily becoming rancid. Pure olive oil is of a pale yellow or greenish yellow, neutral in reaction, has a slight, agreeable odor, a bland taste, which leaves a slight sense of acidity upon the tongue. Its specific gravity is from 0.915 to 0.918. Its chemical composition consists of triolein, tripalmitin and triara-

chin. It does not readily become rancid, and is an ingredient of the officinal cerates of camphor and spermaceti, as well as of the more important ointments.

Glycerine.

Glycerine was originally obtained by heating together olive oil, lead oxide and water, until a hard soap was formed. The glycerine was obtained from the separated water by evaporation. It is now produced in large quantities and of perfect purity by the decomposition of fats with superheated steam, a fatty acid and glycerine being produced by assimilation of the elements of water. They are carried over mechanically by the excess of steam, and rapidly separate in the receiver.

The specific gravity of pure glycerine is 1.27, and its boiling point 290° C. When perfectly pure and anhydrous it crystallizes on exposure to low temperatures, especially if agitated. It has a powerful affinity for water, which, in a moist atmosphere, satisfies at twice its volume.

It volatilizes with the vapors of water, to an appreciable extent, at about 100° C., and in a current of superheated steam, it distills readily between 170° C. and 200° C. If in contact with air, it distills only partly unchanged, the larger portion being destroyed with the formation of acroleine and and empyreumatic products. Mixed with water and a little yeast added to it, it is converted, at a temperature of 25° C., into propionic acid; at 40° C., alcohol and butyric acid.

The medicinal virtue of glycerine—for as a vehicle or base the properties of this substance, which are most decided, must be taken into account—depends chiefly on its penetrating, antiseptic and hygroscopic qualities. It passes by osmosis through parchment, is a typical antiseptic as distinguished from a disinfectant, the former being probably an agent which suspends the activity of a ferment without destroying its vitality, and it absorbs water with great avidity—so rapidly, in fact, that if applied pure, it constricts tissues and temporarily irritates. If a portion of any fleshy root, as that of taraxicum, be placed in pure glycerine, the water passes out rapidly by exosmosis, and in a short time the specimen is shrunken and contorted as if dried by heat. If it be allowed to remain for some time in the glycerine, the structures gain, approximately, their original volume by the passage of glycerine into the cells, and if a section now be cut and placed under the microscope, spherical crystals of inuline will be found grouped on the edges of the cell walls. If animal tissues be placed in the strongest glycerine, they become decidedly contracted in volume at first, but similarly, as with the vegetable structures, regain after a time their volume, or nearly so. If they be placed, at first, in glycerine largely diluted in water, and then gradually increased in strength until of full density, they are scarcely changed in volume, but become succulent and translucent, and may be preserved thus indefinitely. By this method of treatment, Dr. Beale made his important microscopic investigations upon the injected

liver, as well as the nerve structure and ganglion cells, the structures being beautifully cleared and brought into view without any destruction of their minute ramifications. The action of glycerine, therefore, may be stated as follows: It penetrates, softens and purifies the tissues and maintains moisture, and in common with other antiseptics, reduces molecular activity, hence subdues congestion and inflammation.

Origin of Petroleum.

HISTORICAL.—In spite of many plausible theories advanced, the period of petroleum remains shrouded in perplexed darkness. The first and most natural belief was that hydrocarbons, liquid and gasiform, were a product of distillation, resulting from the action of telluric heat on the immense layers of vegetable matter of the palaeozoic age; in other words, they were referred to the coal beds. This theory, however, has almost been abandoned. Another, a chemical theory, advanced by Berthelot, is that the terrestrial mass contains much free alkali metal, which, coming into contact with carbonic acid, will first form acetylides, and that these, under the influence of heat and pressure, are converted into the hydrocarbons under discussion. However, this ingenious theory has but few followers. A third and now more generally accepted opinion is that of Lasquereaux, according to which petroleum is the result of the decomposition of marine plants, as coal has resulted from terrestrial vegetation. One fact strongly in favor of the last mentioned theory

is that the geographical distribution of petroleum and that of the remains of marine algae—some strata of shales, from the upper devonian down to the lower silurian, being oftentimes filled for hundreds of feet in thickness with fossilized forms of hydrophytes, that is water plants,—present a very remarkable coincidence. The oil bearing sand and rock act merely as reservoirs for the collection and reception of the oil produced from bituminous shales beneath.

Petroleum or mineral oil has been known to mankind from time immemorial, and it may be found in nearly all parts of the world, but the first mention of it is, perhaps, that of Herodotus in the connection of the building of Babylon. But the same writer makes mention also of the petroleum well of Zante, one of the Ionian group of islands, a well continuing its flow even to the present day, with undiminished force, after a lapse of more than 2500 years. The mud volcanoes of Baku, a fortified city of Georgia, on the shores of the Caspian sea, have also long been known, and from the fact of their belching forth, in addition to water with thick mud, steam and petroleum, large volumes of inflammable gases, that region is commonly called the “field of fire.” The gases are there so abundant that it is quite a common practice for the natives to merely push a stick into the soft soil, when enough gas will issue from the hole to be used as a camp fire. There also issue from the cracks and crevices of the rocks voluminous jets of natural gas, almost pure hydrogen, which have been known to have been burning uninterruptedly since the dawn of history,

and which by the ancient fire-worshippers (not yet entirely extinct in that country) were held sacred as the "eternal fires." Marco Polo, the celebrated traveler of the thirteenth century, records in his journal that "at Baku there is a fountain of oil of great abundance, in as much as a hundred ship-loads might be taken from it at one time. This oil is not good to use with food, but it is good to burn, and it is also used to anoint camels who have the mange. The most wonderful as well as the largest deposit of bitumen is the great Pitch lake, on the island of Trinidad, which covers an area of ninety-nine acres, filled with millions of tons of pure bitumen."

Ordinarily this black mass is sufficiently solid to carry the weight of a man. The "lake" then has the appearance of a mirror, on the surface of which are distributed little ponds of clear water, the latter also filling the large gaps forming here and there. In warm weather, however, the mass softens, and then this water, which is sweet and drinkable, will cover its entire surface. It is supposed that the bitumen is supported by a deep body of water beneath.

In America there are found traces of naphtha wells in various parts of Pennsylvania, Ohio and Canada, which in all probability were dug by the ancient Mound Builders, the same interesting race that worked the copper mines of Lake Superior, and peopled this continent long before the Indian made his appearance.—*A. G. Vogeler.*

Dr. Chapman, in an article on the subject, says:

Petroleum is found in large quantities in the United States, principally in Pennsylvania. In McKean and adjacent counties of that State the yield is enormous, perhaps little short of 50,000,000 barrels. It is also found in large quantities on the coast of the Caspian sea, in Burmah, India, and many other countries.

It was formerly called Barbadoes tar and Seneca oil.

The petroleum obtained in Canada differs somewhat from that found in Pennsylvania. It is richer in aromatic compounds and poorer in gaseous paraffines than that found in Pennsylvania, and contains also some sulphur.

The products of petroleum of medicinal importance at the present time are petrolatum, paraffine oil and paraffine.

The boiling point of petroleum rises with the series in proportion to the number of carbon atoms of the paraffines, hence the separations of the hydrocarbons is effected by fractional distillation, which is conducted in the main as follows: The crude petroleum is conducted in large cylindrical iron stills, connected with an iron condenser, which is submerged in a tank of water. On applying heat the first distillates are gaseous at ordinary temperature, chymogene, gravity 110° , and rhigolene, gravity 95° , and if these be collected the condenser must be surrounded with ice and salt.

The third distillate is gasoline, gravity 87° . The fourth naphtha, average gravity about 74° . The

fifth benzine of 64° . The sixth distillate being too heavy for kerosene oil is run into the stop tank. The seventh distillate of 58° to 60° gravity is for refined oil of 100° flash test. The eighth distillate from 50° to 42° gravity is for 150° water white oil. The ninth distillate is from 42° to 38° , and is united to the seventh distillate for 100° flash test refined oil. The tenth is a very heavy paraffine and is pumped into the stop tank along with the sixth fraction, then back into the still and mixed with a fresh preparation of crude oil.

The contents of the still now consists of tar and residuum, which is drawn off into smaller stills, and the distillation carried forward until nothing but coke remains in the still. The product of this last distillation is crude paraffine oil, which is treated with sulphuric acid, then distilled from caustic soda, and then placed in ice houses for several days that the paraffine may crystalize out, after which it is separated from the oil by pressure, and repeatedly crystalized from its solution in naphtha to purify. The heavy paraffine oil which has been separated is treated with animal charcoal, and from this product are separated the so-called paraffine oil, petrolatum, etc.

Both liquid paraffine and petrolatum are generally considered to be absolutely non-irritating when applied to the skin. This, however, is doubtful, but if so they are simply protectives and lubricants, possessing the advantage of permanency in composition. Owing to the chemical construction they

are indispensable requisites for some ointments, particularly ointment of yellow oxide of mercury.

As a general ointment base, however, petrolatum, in spite of its advantages in composition and physical characteristics, will not, in the opinion of those well qualified to judge, but partially supplant other bases of recognized value.

Benzole and Benzine.

Some little confusion at times prevails in consequence of the indiscriminate use of the words Benzole and Benzine. In the year 1825, Faraday discovered a peculiar liquid in the holders which at that time were used to convey illuminating gas to private houses in London. He gave to it the name of bi-carburet of hydrogen. Nearly ten years afterwards, the Berlin chemist, Mitscherliche, produced the same substance from benzoic acid, and in allusion to its origin he proposed the name Benzine. Liebig reprinted Mitscherlich's article, "Annals," and in a foot note remarks that, as the termination "ine" is too suggestive of strichnine, quinine, etc., bodies with which it has no analogies, it would be better to change the name to benzole, and this he accordingly did. It was thus that the word Benzole was first introduced into the English language. The French writers adhered to Mitscherliche's original name, and in their dictionaries we find the word benzine, while the English have adopted Liebig's proposition and speak of benzole. We should have been spared much confusion if Faraday's original name had been retained by all parties.

Thus, at the outset, benzole and benzine meant identically the same thing; but, after the discovery of petroleum, it was observed by chemists that the native rock oil was quite a different substance from the coal tar products of the gas house.

The various hydro-carbons that can be distilled from petroleum have a different chemical composition, and vary in specific gravity and properties from the coal tar products. Benzole has a fixed molecular composition; it is a true chemical compound, as much so as alcohol and water. On the other hand the volatile substances which come over during the fractional distillation of petroleum are of a mixed and an indefinite character, and it is difficult for chemists to agree on a definite specific gravity and boiling point. By degrees it became customary to call the liquid which had the specific gravity of 62 to 65 degrees, Baume (0.73), benzine; the lighter hydro-carbons are called naphtha, rhigoline and chymogene. This class of liquids differ considerably from the true Benzole of tar; the latter has a specific gravity of 0.85, and freezes at 37 degrees F. The light oils of petroleum have never been frozen and their specific gravity is very low. The solvent properties of benzole and benzine are analogous though by no means identical; benzole rapidly dissolves asphaltum while benzine scarcely attacks it; benzole is far superior to benzine in carbureting air or gas for illuminating purposes. The most marked difference exists in the fact that benzole can be converted, by nitric acid into nitro benzole, and by further treatment into aniline, whereas

benzine from petroleum is not thus acted upon, and cannot be employed in the manufacture of aniline colors. The greater portion of benzole in the world is sent to Germany to be manufactured into aniline.

**Local Anaesthetic for Comparative Painless
Extraction of Teeth.**

Hydrochlorate of Cocaine,	5 parts.
Crystal Carbolic Acid,	6 “
Pure Gum Camphor,	6 “
Strong Alcohol sufficient for	120 parts.

Oix. Inject one to three minims of this mixture with a hypodermic syringe deeply into the gum in the inner and outer sides of the tooth. Apply over the gum a piece of absorbent cotton wet in the solution. Wait four to five minutes. The gum can then freely be incised, and the tooth drawn with a minimum amount of pain.

CHAPTER XVII.

MEDICATED WATER.

Aqua Albuminosa.

(Ph. F.)

White of four Eggs,	
Orange Flower Water,	2½ drachms.
Water, sufficient to make	2 pints.

Beat the white of eggs with a small quantity of water, strain, and finally add the Orange Flower Water.

Lime Water.

Lime,	2 ounces.
Distilled Water,	2 quarts.

Slack the lime with a little of the water, pour on the remainder of the water and stir them together, then immediately cover the vessel, and let it rest for four hours. Keep the solution with the undissolved lime in glass-stoppered bottles, and when wanted for use, pour off the clear liquor.

This is an anti-acid tonic, promotes digestion, and is an excellent medicine when combined with a decoction of Peruvian Bark.

Lobelia Water.

Lobelia Leaves, powdered,	1 ounce.
Boiling Water,	1½ pints.
Brandy,	1¼ “

Infuse for one week.

Lobelia Water is very good for sore and inflamed eyes in erysipelas, etc.

Chloroform Water.

(Br. Ph.)

Chloroform,	1⅓ drachms.
Distilled Water,	2 pints.

Nix and dissolve.

Spirituous Cinnamon Water.

(Ph. Su.)

Cylon Cinnamon,	6⅓ ounces.
Diluted Alcohol,	6⅓ “
Water,	4 pints.

Distill off two pints, and dissolve five drachms of sugar in the distillate. The preparation is somewhat turbid at first, but afterwards becomes clear.

Keep in a cool place.

Tar Water.

Tar,	2 pints.
Water,	1 gallon.

Mix, by stirring them with a wooden rod for a quarter of an hour, and after the tar has subsided, strain the liquor and keep it in well corked bottles.

Tar water should have the color of white wine. Tar water is frequently used as a remedy in chronic bronchitis. It may be drunk to the extent of a pint or two in the course of a day.

M. Magnes Lahens suggests a method of preparing this water which is more expeditious and convenient than the plan commonly followed. He mixes the tar with sand previously washed and dried, throws the mixture into a percolator and shakes the instrument gently, to secure proper adjustment of the mixture; water is then poured on. The first part of the filtrate is rejected, and the latter portion is kept for use. He uses $\frac{1}{2}$ ounce of tar and 26 ounces of sand to obtain two pints of the medicated water, which corresponds in strength to that of the Paris Codex.

Cherry Laurel Water.

Fresh Cherry Laurel leaves,	1200	grammes.
Alcohol,	120	"
Water,	3600	"

Cut and bruise the Cherry Laurel leaves, add the other ingredients and distill off two pints.

Camphor Water.

Camphor, $\frac{1}{4}$ ounce, and enclose it with a glass marble in a muslin bag. Put this into a wide-mouth bottle—such a one as is used for preserved fruit. Now fill up the bottle with water that has boiled a few minutes, and has been allowed to become cold. The glass marble is used to keep the camphor from floating, which it otherwise would do. After about

three days the water will become saturated with the camphor, and may be poured off when required. A wine glass is a dose.

RADAMACHER'S PREPARATIONS.

Radmacher was a German physician who lived about 100 years ago in Hamburg. He had peculiar ideas regarding the practice of medicine, and more especially of the preparation and action of drugs. He held that the active principles of most of the vegetable drugs were obtained by distillation with water, and quite a number of these waters are yet prescribed by many German physicians.

Those most in use are the following:

Water of Nicotine.

Tobacco,	10 parts.
Alcohol,	2 “

Bruise in a mortar until reduced to a coarse powder, then add water forty parts. Maserate for 12 hours, then distill until 10 parts are obtained.

To be preserved in a cool place.

Quassia Water.

Quassia Bark,	1 part.
Quassia Wood,	5 “
Alcohol,	2 “
Water,	50 “

The drugs, in course powder, are mascerated for twenty-four hours, then distilled until fifteen parts are obtained.

Water of Nux Vomica.

Nux Vomica,	1 part.
Alcohol,	2 “
Water,	40 “

Macerate for twenty-four hours, then distil until ten parts are obtained.

It will be readily seen that this process cannot be indiscriminately employed for all classes of drugs, since only in those the active principals of which are volatile, will the distillate possess the medicinal properties of the drug. In tobacco the active principal is more or less volatile, and therefore carried over in the distillate. In Nux Vomica, however, the product is practically inert; this can easily be proved by testing the distillate for strychnine, not a trace of which has been shown to be present, according to our observations.

CHAPTER XVIII.

CERATES.

The term Cerate is applied to those unguents which contain wax. The following will be found very useful:

Simple Cerate.

Lard,	8 ounces.
White Wax,	4 “
Melt together and stir constantly until cold.	

Spermaceti Cerate.

Spermaceti,	2 ounces.
White Wax,	8 “
Olive Oil (warm,)	1 pint.

Melt together and stir assiduously until cold. This is used as a soft, cooling dressing. As soon as the materials are melted, they should be moved from the fire. Strain in a clean vessel and stir until cold. To facilitate the cooling, the vessel may be placed in cold water or a current of cold air. This will render the product both whiter and finer than when allowed to cool by itself. The operation of melting should be performed in a water bath.

Universal Cerate.

Hogs' Lard,	1 pound.
White Lead,	3 ounces.
Red Lead,	3 “
Bees' Wax,	3 “
Black Resin,	2 “
Turpentine,	4 ounces.

All these ingredients must be put together, in a pan and boiled 45 minutes; the turpentine to be added just before it is done enough. Give it a gentle boil afterwards.

This is an excellent cure for burns, sores, or ulcers, as it first draws and then heals afterwards.

Simple Cerate No. 2.

Olive Oil,	5½ fluid ounces.
White Wax,	2 ounces.

Melt together and stir until cool.

Green Cerate (Ph. G.).

Yellow Wax,	50 grammes.
Burgundy Pitch,	25 “ “
European Turpentine,	15 “ “
Virdigris, in fine powder,	5 “ “

Melt the wax, pitch and turpentine together, strain and mix the Virdigris intimately with the Cerate, pour it into paper moulds so as to form cakes the required thickness.

Spice Cerate.

Cloves, powdered,	100 grammes.
Cinnamon, powdered,	100 “ “
Ginger, powdered,	100 “ “
Capsicum, powdered,	50 “ “
Camphor, powdered,	50 “ “
Simple Cerate,	600 “ “

Mix.

Borax Cerate.

Borax, in very fine powder,	60 grains.
Spermaceti Ointment,	1 ounce.

Mix by trituration and it will be found that a drop of the ottar of roses will make it very agreeable.

Nutmeg Cerate.

Yellow Wax,	10 grammes.
Olive Oil,	20 “
Expressed Oil Nutmeg,	60 “
Melt together.	

Rose Cerate.

Sweet Oil of Almonds,	100 grammes.
White Wax,	50 “
Volatile Oil of Rose,	$\frac{1}{2}$ “
Carmine,	$\frac{1}{2}$ “

Melt the Oil and the Wax together, and stir until cold. When cold, incorporate the Carmine and Volatile Oil of Rose.

CHAPTER XIX.

PATENT MEDICINES.

Laville's Gout and Rheumatic Mixture.

Calcium Chloride,	5 grammes.
Extract of Colocynth,	2.5 "
Chenoidin,	5 "
Water,	85 "
Alcohol,	100 "
Spanish Wine,	800 "
Mix.	

White Pine Expectorant.

White Pine bark, Wild Cherry bark,	
each,	1 ounce.
Balm Gilead buds, Spikenard Blood	
root, each	grs. 64
Sassafras,	grs. 32
Chloroform,	m. 60
Morphine Acetate,	grs. 3
Alcohol,	fl. ozs. 4
Sugar,	ozs. 12
Water sufficient to make,	fl. ozs. 16

Mix the alcohol with 6 ounces of water and with this menstruum exhaust the drugs by percolation, adding water until 10 fluid ounces of percolate are obtained. To this add the Chloroform and the Morphine previously dissolved in a little water, then dissolve sugar without heat, strain and add water to make 16 fl. ounces.

Nichols' Bark and Iron.—Said to be.

Calisaya Bark,	4 ounces.
Cinnamon,	1 “
Caraway,	1 drachm.
Orange Peel,	6 ounces.

Reduce them to a coarse powder, and percolate with $1\frac{1}{2}$ pints each of Alcohol and water. Next dissolve 4 ounces of Muriatic Acid, dilute the solution with 8 ounces of water and filter; precipitate with sufficient liquor of Ammonia and wash the precipitate. Digest the wet precipitate with the percolated tincture for 24 hours with occasional shaking. This must then be tested with a few drops of tincture of Iron, for any cincho-tannic acid that may be left. When all the acid has been removed filter, and add $2\frac{1}{2}$ pints simple syrup, and caramel to color; lastly, for every fluid ounce add 3 grains pure Crystalized Sulphuret of Iron.

Mr. Ogden's Chlorodyne.

Chloroform,	4 drachms.
Ether,	$1\frac{1}{2}$ “
Oil Peppermint,	8 drops.
Resin of Indian Hemp,	16 grains.
Capsicum,	2 “

Macerate for 2 or 3 days and filter, then dissolve Hydrochlorate of Morphia 16 grains in 1 ounce syrup, add perchloric acid and water, $\frac{1}{2}$ drachm each, assisting the solution by a water bath, then when cold, add Hydrocyanic Acid (Scheele's) 96 drops. Mix solutions.

Chlorodyne.

The composition of this well known remedy has excited much attention among chemists; many formulas have been published, but it is difficult to determine which of them approaches nearest to the Chlorodyne of Collis Browne, its originator. There can be no doubt about the three important ingredients, Chloroform, Morphia and Hydrocyanic Acid, nor can there be about Oil of Peppermint and Molasses. The question is whether anything else exists in the compound. Hitherto, of the formulas which have been published, one of Mr. Ogden, of London, and one by Mr. Squire, have attracted much attention. Here they are:

Chloroform,	4 fl. drachms.
Mur. Morph.,	20 grains.
Rectified Ether,	2 fl. drachms.
Oil Peppermint,	8 minims.
Hydrocyanic Acid dil.,	4 fl. drachms.
Tinct. Capsicum,	6 fl. drachms.
Acacia Mixture,	1 fl. ounce.

Seven Sutherland Sisters' Hair Grower.

Bay Rum,	7 fl. ounces.
Distilled Ext. Witch Hazel,	9 " "
Common Salt,	1 drachm.
Hydrochloric acid 5 per ct.,	1 drop.
Magnesia,	q. s.

Mix the Bay Rum and Distilled Ext. of witch hazel and shake with a little magnesia, filter and in the filtrate dissolve the salt and add the Hydrochloric Acid.

Lactopeptin,

Or Pulvis Pepsini Compositus—Compound Powder of Pepsin of the National Formulary.

Saccharated Pepsin,	150 grains.
Pancreatin,	150 “
Diastase,	10 “
Lactic acid,	10 minims.
Hydrochloric acid,	20 “
Sugar Milk,	1000 grains.

To the Sugar of Milk add the acids gradually and triturate until they are thoroughly mixed. Mix the Pepsin Pancreatin and Diastase and then incorporate this mixture by trituration with the Sugar of Milk. Finally rub the mixture through a hair-sieve and preserve the powder in bottles.

Hayden's Viburnum Comp.

Cramp bark,	4 fl. drachms.
Black Haw,	2 “
Skunk Cabbage,	2 “
Syrup Simplex,	4 “

Tinct. Cinnamon q. s. to make 4 ounces.

Mix. After standing 24 hours filter.

Kennedy's Medical Discovery.

Helonium Autumnale,	1 ounce.
Licorice Root,	$\frac{1}{2}$ “
Apocynum Canabinum,	$\frac{1}{2}$ “
Boiling Water,	8 ounces.
Proof Spirit,	10 fl. ounces.

Macerate for 48 hours, strain and add sugar, 4 ounces, Tincture Gaultheria, 1 fl. ounce.

Ketchell's Liniment.—Said to be

Water ammonia,	1 part.
Water,	3 “
Color with Caramel.	

Listerine.

Acid Boric,	2 drachms.
Acid Benzoic,	2 “
Dissolve in water,	64 ounces.
Fl. Ext. Baptisia,	4 drachms.
Methol,	2 “
Oil Eucalyptus,	3 “
Oil Gaultheria,	$\frac{1}{2}$ “
Dissolve in Alcohol,	64 ounces.

Mix the two solutions and filter through Magnesium Carbonate. The use of Fl. Ext. Baptisia prevents a colorless preparation in which respect it differs from the original. This can only be avoided by distilling the Baptisia with water and the distilled ext. thus obtained used instead of the fluid extract.

The Four Chlorides.

Corrosive Sublimate,	1 grain.
Solution Arsenous Chloride,	1 fl. drachm.
Tincture Chloride Iron,	4 “ “
Diluted Hydrochloric Acid,	4 “ “
Simple Syrup,	3 “ “
Water sufficient to make,	6 fl. ounces.

A powerful alterative, e. g. in Chlorosis Syphilis, etc.

Piso's Consumption Cure.

Sulph. Morphine,	8 grains.
Acid hydrocyanic dil.	2 fl. drachms.
Chloroform,	4 "
Glycerine,	7¼ fl. ounces.
Syr. q. s. to make	16 ounces.
Mix. Color with Chlorophyl.	

Peacock's Bromides.

(Said to be.)

Potassium and Sodium Bromides

each	640 grains.
Ammonia,	384 "
Calcium,	192 "
Lithium,	64 "
Extract of Vanilla,	1 fl. oz.
Sugar,	10 av. oz.
Water sufficient to make	16 fl. oz.

Dissolve the salts in 8 ounces of water and the extract mixed in the liquid filtered. Dissolve the sugar without heat, and strain.

Dr. Laubach's Electric Liniment.

Oil of Turpentine,	60 parts.
Tinct. Arnica Flowers,	120 "
Soap Liniment,	900 "
Stronger Water of Ammonia,	120 "
Oil Sassafras,	6 "
Oil of Rhyme,	2 "
Alcohol,	240 "

Total parts of measure, 1448

Kendal's Spavin Cure.

Camphor,	21 parts.
Oil Turpentine,	30 "
Oil Rosemary,	1 "
Water,	39 "
Alcohol,	192 "
Iodine,	5 "

Total parts of weight, 288

Ely's Cream Balm

White Wax,	1 drachm.
Paraffin,	$\frac{1}{2}$ "
Oil Sweet Almonds,	2 "
Melt together, then add,	
Petrolatum,	4 drachms.
Stir until cold, when incorporate	
Nitrate of Sodium,	$\frac{1}{2}$ drachm.
Previously dissolved in Hot	$\frac{1}{2}$ "
Finally add,	
Oil lemon,	10 minims.
Oil Orange Peel,	2 "

The above makes a nice cream, and if put into amber colored vials about $\frac{1}{2}$ ounce, sells rapidly.

Extract of Lilac.

Piesse's "Perfumery and Kindred Arts," gives this:

Extract of Tuberose,	1 pint.
Extract of Cassi,	$\frac{1}{2}$ "
Extract of Orange Flower,	1 "
Tincture of Orris,	$\frac{1}{2}$ "
Tincture of Civet,	$\frac{1}{4}$ "
Rose Water, Triple,	$\frac{3}{4}$ "

Hostetters Bitters.

Calamus, Orange Peel, each	2 lb.
Cinchona, Gentian Columbo, each	2 lb.
Rhubarb,	8 ounces.
Cinnamon,	4 “
Cloves,	2 “
Diluted Alcohol,	4 gallons.
Water,	2 “
Sugar,	2 lbs.

Thomas' Electric Oil.

Gum Camphor,	} of each	$\frac{1}{2}$ ounce.
Oil Gaultheria,		
Oil Oreganum,		
Chloroform, Laudanum,	} of each	1 ounce.
Oil Sassafras, Oil Hemlock,		
Oil Turpentine, Bal. Fir,		
Tinct. Guaiacum, Catechu,	} of each	4 pints.
Alcohol,		
Alkanet sufficient to color.		

Athlophorus.

According to the new idea the formula of “Searle’s Great Rheumatic and Neuralgia Cure,” is as follows:

Sulphate of Morphia,	2 grains.
Fluid ext. colchicum seed,	} each 1 fl. drachm
Fluid ext. guaiac resin	
Potassium acetate,	60 grains.
Potassium salicylate,	60 “
Diluted alcohol,	$\frac{1}{2}$ fl. oz.
Syrup of squill, enough to make	6 “ “

Horsford's Acid Phosphate.

(Said to be)

NOTE.—As a formula for the preparation of this solution is called for, the following by Mr. Shinn, from the *American Journal of Pharmacy*, is submitted for the information of those who have not seen it in the journal named.

Liquor Acidi Phosphorici.

Carbonate of Calcium,	gr.	369
Magnesia (calcined)	"	116
Carbonate of Potassium,	"	115
Phosphoric Acid, 60 per cent.	"	1721
Water, q. s. to make one pint.		

Bromidia.

The following formulæ are said to respectively lead to permanently clear mixtures:

Pot. Brom.,	}	aa ̄ iv.
Chloral Hydrat,		
Ext. Cannabis Ind.,	}	aa gr. xvi.
Ext. Hyoseyam,		
Alcohol,		̄ ij.
Water,		q. s. ad O. i.

M.

Rub extracts in glass mortar with alcohol until dissolved; rub salts to a powder, and mix. Then add hot water, triturate until dissolved, then filter.

Pot. Brom.,	}	aa ̄ ij.
Chloral Hydrat,		
Ext. Cannabis Ind.,	}	aa gr. viii.
Ext. Hyoseyam,		
Alcohol,		fl. ̄ i.
Water, q. s., ft.,		oss.

M. et filt.

Thompson's Eye-Water.

Is reported to contain.

Sulphate of Zinc,	20 grains.
Sulphate of Copper,	5 “
Tinct. Saffron,	2 drachms.
Tinct. Camphor,	1 drachm.
Rose Water,	8 ounces.
Dist. Water,	8 “
Mix and filter.	

Perry Davis' Pain Killer.

Is said to be prepared as follows:

Powdered Guaiac,	20 lbs.
Camphor,	2 “
Powdered Cayenne Pepper,	6 “
Caustic Liquor of Ammonia,	1 “
Powdered Opium,	½ “

Digest in 32 gallons of alcohol for two weeks and filter.

Hamburg Tea.

This is said to be a mixture of licorice, marsh-mallow root, red poppy flowers, mallow flowers (*Malva sylvestris*), marshmallow leaves, and the yellow flowers of a species of *Stellaria*. Others give the composition thus:

Marshmallow Flowers, cut,	8 oz.
Licorice Root, cut,	2 “
Orris Root, cut,	1 “
Coltsfoot, cut,	4 “
Mullein Flowers, cut,	2 “
Anise Seed,	2 “
Mix thoroughly.	

Dr. Pierce's Favorite Prescription.

According to Hager this contains:

Savin,	10 grams.
Agaric,	5 "
Cinnamon,	5 "
Peruvian Bark,	10 "

Make a decoction of 200 grammes, and add:

Gum Arabic,	10 grams.
Sugar,	5 "
Tinct. Digitalis,	2 "
Tinct. Opii,	2 "
Oil Anise,	8 gtts.

Dissolve the gum, sugar and oil in 45 grammes of alcohol. Mix.

Liquor Acidi Phosphorici Comp.

Carbonate of Calcium,	gr. 369
Magnesia (calcined)	" 29
Carbonate of Potassium,	" 25
Phosphate of Iron,	" 64
Phosphoric Acid, 60 per cent.	" 1705
Water q. s. to make one pint.	

Mix the acid with 8 oz. of water, add the phosphate of iron (for the latter preparation), stir till dissolved, then add the carbonate of calcium, stirring till effervescence ceases, and the freshly formed phosphate is dissolved, then add the magnesium and potassium salts, and when dissolved, make, by the addition of water, the measure up to one pint.

Florida Water.

Oil of Lavender,	4 fl. oz.
Oil of Bergamot,	4 " "
Oil of Neroli,	2 " drachms.
Oil of Orange,	4 " "
Oil of Clove,	1 " drachm.
Pure Musk,	4 grains.
Cologne Spirit, 96°.,	1 gallon.
Tincture of Tonka, sufficient to color.	
Macerate 15 days, and filter through paper.	

COSMETICS OF THE MARKET.

An analysis of the most largely sold of these compounds reveals the following:

NAMED PREPARATION AND MAIN CONSTITUENTS.

Pearl White—Sub-nitrate bismuth.

Flake White—Carbonate of lead.

Saunder's Face Powder—Oxide of zinc.

Complexion Powder—Bismuth sub-carbon.

Ricker's Face Powder—Calcium zinc carbonate.

Lotions.

Circassian Cream—Corrosive sublimate.

Kalydor—Corrosive sub. and potash.

Milk of Roses—Corrosive sub. rose water and oil of Almonds.

Enamels.

Lairds Bloom of Youth—Oxide Zinc and Calcium.

Gouroud's Oriental Cream—Calomel and Water.

Hagan's Magnolia Balm—Oxide Zinc.

Snow White Enamel—Carbonate of lead.

Snow White Oriental Cream—Carbonate of lead.

The Double Chloride of Gold Treatment.

Prof. Edmund Andrews gives the following on the subject of the Chloride of Gold Treatment:

Dr. J. L. Gray, who now has a sanitarium for the treatment of drunkards, at Laporte, Ind., without any knowledge of what was being done at Dwight, began to treat drunkards by a combination of medicines of which the principal ingredients were strychnia, atropine, and the double chloride of gold and sodium, combined with some soothing and strengthening constituents.

THE DWIGHT TREATMENT.

Dr. Gray, on hearing of the Dwight treatment, went to the institution especially to investigate it. He found, from the symptoms manifested by patients, that they were taking, essentially, the same treatment as his own, though he and the physician at Dwight had held no consultation with each other. Dr. Gray found the patients at Dwight exhibiting symptoms which were unmistakable as indicating the use of atropine, strychnia and gold.

The atropine causes the pupil of the eye to become dilated on the second or third day, with some dimness of vision and a little irregularity in walking. Some headache ensues, and the strychnia causes some twitching of the muscles. The chloride of gold causes, in a week or two, an irritating, red eruption to break out all over the body.

When Dr. Gray receives a patient, he sets into his room a bottle containing a pint of good whisky, instructing the patient he can take all he wishes. He immediately commences and gives him four

hypodermic injections each day, each containing one-tenth of a grain of chloride of gold and sodium, and one-fortieth of a grain of nitrate of strychnia, and gives a mixture, to be taken by the mouth, containing the same, with some atropine. The following is the exact prescription used by him :

Chloride of Gold and Sodium,	12 grains.
Muriate of Ammonia,	6 “
Nitrate of Strychnia,	1 “
Atropine,	$\frac{1}{4}$ “
Comp. Fl. Ext. of Cinchona,	3 ounces.
Fl. Ext. of Coco,	1 ounce.
Glycerine,	1 “
Distilled Water,	1 “

Mix, and take a teaspoonful every two hours when awake.

He sees the patient four times a day, and rapidly increases the gold and strychnia until the symptoms show that they are getting all they can bear. The first day the patient drinks freely of the whisky in the room; the second day he begins to lose his desire for it. By the evening of the third day, or the morning of the fourth, he is totally sick of it, and will not take any more. The treatment is carried on from three to six weeks.

Dr. Gray says he has treated some two hundred patients, but the difficulty of getting a correct history of many of them after they have left the institute, makes it impossible to give exact statistics as to the permanency of the cures. He has patients that have frequently been to Dwight and relapsed several times, and numerous others, who have gone back to drink,

are scattered all over the country. Nevertheless, many remain permanently cured, and probably Dr. Gray's estimate of about 70 per cent. is more nearly correct than the Dwight estimate of 95 per cent.

The value of the so-called Chloride of Gold treatment is this: It breaks the patient of his desire for drink. The powerful poisons given disturb the nerves profoundly, and like a fit or an attack of some kind of sickness so change the condition of the nervous system, that the desire for liquor is upset and completely abolished.

Kumyss.

Mr. W. H. C. Martin, of Chicago, quite a large manufacturer of Kumyss, gives the following details for its preparation:

Fresh milk,	14 gallons.
Skimmed milk,	28 "
Water,	6 "
Sugar, granulated,	10 pounds.
Milk sugar,	2 pounds.
Yeast, one package, or about,	$\frac{1}{2}$ ounce.

These portions were selected for the reason that cows' milk contains, according to the best authorities, about 4 per cent of fat, while mare's milk contains only about 1 per cent. By using skimmed milk and water the 4 per cent is reduced to about the required 1 per cent. Again, the addition of water has reduced the phosphates in cow's milk to near the amount desired in mare's milk, while the subtraction of caseine from the skimmed milk, together with the addition of water, reduced the amount of caseine

from $4\frac{1}{2}$ to 5 per cent to about $1\frac{1}{2}$ or $1\frac{7}{10}$ per cent contained in mare's milk. Take the skimmed milk and by the aid of steam baths raise it to the temperature of 90 to 100 degrees F. Add one-third of the yeast, first dissolved in a small quantity of water, and keep it at this temperature until the caseine separates into a thick mass; pour off the whey and strain it through thin muslin into a 40-gallon cask already containing the fresh milk. Now add the balance of the yeast, dissolved in a small quantity of the milk, and lastly the water with the sugar dissolved in it. The case should be made of oak, with a wooden faucet just below the lower hoop, to which is attached a rubber hose about 15 feet long and $\frac{1}{2}$ inch in diameter, so as to allow it to go into the neck of a quart champagne bottle. About four inches from the end there is attached to the tube an arrangement similar to those seen on fountain syringes, whereby the flow can be controlled at will. The Kумыss is now stirred once in every five or ten minutes while the bottling is proceeded with. Place the bottles in rows convenient to the cask, and fill to within three inches and a half to four inches of the top. When all are filled soak some straight wide corks of proper size in lukewarm water, and cork thoroughly with the aid of a corking machine, and so that the corks do not protrude more than one quarter of an inch above the neck. Tie with good stout twine, the same as you would a bottle of Citrate of Magnesia, and lay on their sides. The temperature of the room should be above 70 degrees, F., and the bottles should be

shaken once every five or six hours. At the end of 15 to 18 hours fermentation will have begun and they are ready for the ice box. The temperature of the box should be kept under 55 degrees, F., to allow a slow and even fermentation to go on. If kept below this point Kumyss does not need any shaking after it is in the ice box. It is only too high a temperature and rapid fermentation which causes the lumps of grittiness which should be entirely absent.—*Oleson's Secret Nostrums*.

Schafhirt's Tape Worm Remedy.

Pomegranate root bark,	4 drachms.
Pumpkin seed,	1 ounce.
Ethereal Extract Male Fern,	1 drachm.
Powdered Ergot,	30 grains.
Powdered Gum Arabic,	2 drachms.
Croton Oil,	2 drops.

The pomegranate root and pumpkin seeds are thoroughly bruised and, with the ergot, boiled with eight ounces of water for fifteen minutes and strained through a coarse cloth. The croton oil is first well rubbed up with the gum arabic and the extract of male fern and then made into an emulsion with the decoction.

The treatment is very simple. The patient is to abstain from any breakfast the day it is intended to remove the worm, a large dose of Rochelle salts being administered the preceding night; then at 10 o'clock in the morning, the whole mixture above described is given at one dose. The worm is soon expelled, generally with its head firmly fastened to its side and its body doubled and twisted into several knots.

Freeman's Vermifuge Oil.

Oil of Worm-seed,	$\frac{1}{2}$ ounce.
Oil of Turpentine,	2 drachms.
Castor Oil,	$1\frac{1}{2}$ ounces.
Pink Root,	$\frac{1}{2}$ ounce,
Hydrastin,	10 grains.
Syrup of Peppermint,	$\frac{1}{2}$ ounce.

Mix. Dose for a child, a teaspoonful three times a day, one hour after each meal. If it purges too freely don't give it so often.

Lindsey's Pain Cure.

W. G. Snyder gives the following, which is a very excellent formula of liniment:

Alcohol,	4 ounces.
Ethereal Oil of Wine,	4 drachms.
No. Six,	4 ounces.
Spirits of Camphor,	4 ounces.
Oil Hemlock,	2 ounces.
Oil Cinnamon,	1 drachm.
Oil Sassafras,	1 ounce.
Oil Cloves,	4 drachms.
Ether,	2 ounces.
Chloroform,	2 "
Sweet Spirits of Nitre,	4 "
Chloral Hydrate,	2 "
Lard Oil,	4 "
Oil Cedar,	4 "
Oil Organum,	1 ounce.
Oil Wintergreen,	2 drachms.

Mix. It may be taken internally in doses of 5 to 60 drops.

The No. Six is tincture of capsicum and myrrh, made double strength by the aid of chloroform.

Seeley's Pile Ointment.

Sulphate of Morphia,	3 grains.
Tannin,	48 "
Pine Tar,	72 "
White Wax,	72 "
Benzoated Lard,	766 "

Mix.

Aseptic.

Borax,	2 parts.
Alum,	1 part.

Powder and mix thoroughly together.

This is the much talked of preservative for milk and meat.

Proctor's Vermifuge.

Santonine,	16 grains.
Fluid Extract of Senna,	2 ounces.
Fluid Extract of Pink Root,	2 ounces.

Mix.

Dose—For children two years old, one teaspoonful night and morning until purging takes place.

This preparation is made to expel stomach worms from children.

Bailey's Asthma Cure.

Syrup of Tar Comp.,	4 ounces.
Sulphuric Ether,	2 "
Pulv. Gum Cacia,	6 "

Mix.

Dose—One teaspoonful every two or three hours until relieved. Oftentimes two or three doses are quite sufficient to relieve an aggravated attack of spasmodic asthma.

The syrup of tar above mentioned is Dr. Bailey's own preparation, and is made as follows:

Picis Liquid,	4 ounces.
Scillae Acet,	1 pint.
Antim. et Potas. Tart.,	16 grains.
Magnesia,	$\frac{1}{2}$ ounce.
Sacch. Alba,	30 ounces.
Sulph. Ether,	1 fl. drachm

Mix the tar and carb. magnesia intimately in a mortar, adding the alcohol first and then the ether, then add the acet. scillae and throw the whole on a stout filter. Having added sufficient acet. scillae (if may be) to make the filtered liquid measure one pint, proceed to make the syrup by the usual U. S. P. formula, taking care to apply a gentle heat. Lastly, strain through flannel and add the tart. antimonii in solution.

After the paroxism is relieved the patient is left in a relaxed and debilitated condition; it is then necessary to resort to a tonic course of treatment. A generous diet, with simple bitters or some mild preparation of iron is generally sufficient to restore the system to its accustomed health.

Lombard's Cancer Remedies.

Dr. J. L. Horr is given the credit for these celebrated remedies, which were transmitted to him by the celebrated Lombard, while on his death-bed. The doctor says: "Having, without solicitation on my part, become possessed of the knowledge of these secret preparations, I feel it my privilege to give them to the medical world."

The remedy employed, if the cancer was small, was the inspissated juice of leaves of the *Phytolacca decandra* (garnet), which was employed in the form of a paste until sloughing took place. The after-treatment was some simple dressing like simple cerate. If the tumor had attained considerable size, Dr. Lombard first used a paste composed of chloride of zinc and pulverized sanguinaria, until an eschar was produced, and then the same plaster as before was employed until the mass sloughed away.

Bronchilline.

Mullein,	4 grains.
Hoarhound,	4 "
Senega,	4 "
Ipecac,	4 "
Sanguinaria,	4 "
White Pine,	4 "
Wild Cherry,	16 "
Pine Tar,	8 "
Chloroform,	4 minims.

Mix. To prepare a syrup having this composition, proceed as follows:

Mullein,	64 grains.
Hoarhound,	64 "
Senega,	64 "
Ipecac,	64 "
Sanguinaria,	64 "
White Pine,	64 "
Wild Cherry,	256 "
Chloroform,	64 minims.
Pine Tar,	q.s.
Sugar,	14 troy ozs.
Alcohol,	q.s.
Water,	q.s.

Make a tar water, following the method of the U. S. P. for syrup of tar. Take the mixed drugs in about No. 40 powder, and having mixed eight volumes of the tar water with three volumes of the alcohol, proceed to moisten the drugs with this menstruum. After allowing to stand for 24 hours, to swell, pack them in a percolator, and percolate with the menstruum until eight ounces of percolate have been obtained. In this dissolve the sugar with the aid of a gentle heat, and when cold, add the chloroform and enough tar water to make a pint.

Sage's Catarrh Cure.

Powd. Hydrastis Canadensis,	5 drachms.
Indigo,	$\frac{1}{2}$ drachm.
Powdered Camphor,	2 drachms.
Carbolic Acid,	2 "
Common Salt,	50 grains.

Powder the camphor by means of a little alcohol, and mix to a fine powder. Rub the indigo and carbolic acid together, mix with the salt and camphor, and add the powdered hydrastis. Mix intimately, without pressing, in a mortar.

Anti-Fat.

Anti-Fat is a fluid extract of bladder wrack (*fucus vesiculosus*). It is prepared from the fresh plant (preferable), $7\frac{1}{2}$ pounds being used to make forty ounces of the extract, with proof spirits as the menstruum.—*New Idea.*

Fleury's Tasteless Cascarine.

This mixture was found to contain 45 grains of yellowish white powder, and an examination proved it to be Subnitrate of Bismuth and Calomel, triturated through powdered cane sugar.—*New Idea.*

Brunelli Process of Embalming.

The process of embalming is as follows, and is called the Brunelli process.

1. The circulating system is cleansed with cold water, until it issues quite clear from the body. This may occupy from two to five days.

2. Alcohol is injected, so as to absorb as much water as possible. This occupies about one-quarter of an hour.

3. Ether is then injected, so as to absorb the fatty matters. This occupies from two to ten hours.

4. A strong solution of tannin is then injected. This occupies, for imbibation, two to ten hours.

5. The body is then dried in a current of warm air passed over heated chloride of calcium. This may occupy from two to five hours.

The body is perfectly preserved, and resists decay. The Italians exhibit specimens that are as hard as stone, retain the shape perfectly, and are equal to the best wax models. It will be observed that those parts that are prone to decay are removed and that which remains is converted into a substance resembling leather.

Lallemand's Specific.

Sulph. Quinia,	1 drachm.
Sulph. Cinchona,	1 "
Extract Colocynth,	4 "
Wine Colchicum Seed,	8 ounces.
Tinct. Verat. Viride,	1 ounce.
Diluted Alcohol,	8 ounces.
Sherry Wine,	31 "

Mix. Dose: one teaspoonful.—*Nat'l Druggist.*

Calder's Saponaceous Dentine.

Calcium Carbonate,	56 per cent.
Soap (by difference),	44 per cent.
Perfume with Oil of Wintergreen.	

Morell's Antiseptic Liquid.

Arsenious Acid,	14 parts.
Caustic Acid,	7 "
Water,	20 "
Carbolic Acid, to render fluid, after stirring, opalescent.	
Add water enough to make	100 "

Mix.

Caladont.

The dentifrice known in Germany by this name is made by dissolving neutral soap in glycerine and rubbing with a suitable tooth powder, the proportions being adjusted so as to produce a soft mass. Carmine is used as a coloring, and the flavor may be given by adding the following mixture:

Oil of Peppermint,	25 parts.
Oil of Lemon,	6 parts.
Oil of Orris Root,	1 part.
Oil of Sage,	1 part.

The preparation is usually put up in collapsible tubes.—*Druggists Circular*.

Corrassa Compound.

This wonderful preparation was analyzed by Dr. A. B. Lyons, of Detroit, Mich., and was found to be composed of the following:

Gentian,	15	per cent.
Licorice Root,	15	“ “
Sugar,	50	“ “
Sodium Bicarb.,	17½	“ “
Cochineal,	2½	“ “

Mix the above ingredients all into a fine powder

Arabian Balsam.

Oil Gossypium,	15 ounces.
Oil Origanum,	1 ounce.
Oil Turpentine,	4 drachms.
Mix.	— <i>S. W. Rogers</i> .

Benson's Skin Cure.

(An Internal.)

An elongated, round, long-neck green bottle contains scant two fluid ounces of a watery fluid, light brown, yellowish liquid of no reaction, of a pronounced bitter taste and a rosemary smell. The liquid has pieces floating in it resembling petals of

clover blossoms. It consists, according to our examination, of:

Clover Blossoms,	720 grains.
Yellow Dock Root,	90 “
Gentian Root,	120 “

Boil for one hour with one pint of water; when cool transfer to a closed vessel and add one ounce of alcohol in which has been previously dissolved oil of rosemary, oil thyme, of each one drop. Let this stand over night, strain next morning, make up to one pint with water sufficient.

EXTERNAL APPLICATION.

An elongated, round-necked bottle contains four ounces of this liquid. The liquid consists, according to our examination, of:

Acetate of Lead,	2 grains.
Acetate of Copper,	1 “
Acetate of Zinc,	15 “
Benzoated Water,	12 fl. ounces.

Mix.

The benzoated water is readily prepared by agitating half an ounce of tincture of benzoin with 12 ounces of warm water, allowing it to cool and settle, then filter.—*New Idea*.

Atkinson's Infant Preservative.

Carbonate of Magnesia,	6 drachms.
White Sugar,	2½ ounces.
Oil Anise,	20 drops.
Comp. Spirits of Ammonia,	2½ drachms.
Rectified Spirits,	2½ ounces.
Tincture Opium,	1 drachm.
Syrup Saffron,	1 ounce.
Caraway water sufficient to make 1 pint.	

Mix.

Used as an antacid, anodyne and hypnotic.
—*Pharm. Record*.

Swaim's Vermifuge.

Wormseed,	2 ounces.
Valerian,	1½ ounce.
Rhubarb,	1½ ounce.
Pink Root,	1½ ounce.
White Agaric,	1½ ounce.

Boil in sufficient water to yield 3 quarts of decoction and then add the following oils dissolved in a quart of rectified spirits:

Oil of Tansey,	30 drops.
Oil of Cloves,	45 drops.

Lyon's Katharion.

This formula will duplicate the original.

Castor Oil,	1 fl. ounce.
Tincture of Cantharides,	1 fl. drachm.
Oil of Bergamot,	20 minims.
Stronger Water of Ammonia,	1 drop.
Alcohol sufficient to make	3 fl. ounces.

Mix. *—New Idea.*

Brandycrocin.

Caffeine,	5 grains.
Potassium Bromide,	20 “
Sodium Bromide,	20 “
Simple Syrup,	2 drachms.
Alcohol,	2 drachms.
Port Wine, sufficient to make	2 ounces.
Carmine sufficient to color.	

Mix. *—Druggists Circular.*

Catani's Specific.

Carbonate of Lithium,	1 part.
Carbonate of Sodium,	2 parts.
Citrate of Potassium,	4 parts.
Mix into a powdered form.	

Platt's Chlorides.

Magnesium Chloride,	3 parts.
Potassium Chloride,	3 "
Sodium Chloride,	3 "
Zinc Chloride,	15 "
Aluminum Chloride,	15 "
Water, sufficient quantity,	200 "
Mix.	

Himrod's Asthma Cure.

The following is said to be the formula:

Powdered Lobelia,	2 ounces.
Powdered Stramonium Leaves,	2 "
Powdered Nitrate of Potass,	2 "
Powdered Black Tea,	2 "

Sift well and mix.

Price's Pile Ointment.

English Calomel,	1 ounce.
Powdered Opium,	$\frac{1}{2}$ "
Pure Carbonate of Lead,	1 pound.
Oxide of Zinc,	1 "
Olive Oil,	2 pounds.
Fresh Lard (without salt),	2 "

Mix by trituration in wedgewood mortar. This preparation is put up in 2-ounce gallipots, tied over with a bit of bladder.

Searle's Rheumatic and Neuralgia Cure.

The following formula makes a preparation which is scarcely distinguished from the original:

Acetate of Potash,	1 drachm.
Salicylate of Soda,	490 grains.
Sugar,	4 ounces.
Caramel,	3 drops.
Water,	14 fl. drachms.

To make four ounces. Dissolve the salts and sugar in the water, add the caramel and enough water to make the product measure four fluid ounces. The original bottle contains a scant four fluid ounces of the liquid. The label states that the dose is one teaspoonful every three hours, taken in milk or water. In acute cases, the dose is two teaspoonfuls. The directions also state not to feel alarmed if the medicine causes ringing in the ears.—*New Idea.*

Low's Magnetic Liniment.

Oil of Turpentine,	45 parts.
Tincture Capsicum,	60 “
Spirits of Camphor,	480 “
Stronger Water of Ammonia,	45 “
Alcohol (sp. gr. 820),	90 “
Oil of Sassafras,	3 “
Fl. Ext. of Sarsaparilla,	20 “

Mix.

—*New Idea.*

Barnes' Frost Balsam.

Copaiba,	$\frac{1}{2}$ ounce.
Turpentine,	$\frac{1}{2}$ “

Mix.

Big G Injection.

A result of an examination of this famous nostrum by the *New Idea*, resulted as follows:

The bottle contains four fluid ounces of a yellowish fluid of a bitter saline, slimy taste, and an examination found it to contain boric acid, or borax and berberine, the yellow alkali of hydrastis. No zinc sulphate or other astringent was found.

Holloway's Ointment.

The formula for this preparation is said to be:

Yellow Wax,	10 parts.
White Wax,	10 "
Turpentine,	25 "
Lard,	50 "
Sweet Oil,	75 "

Mix.

Hind's Honey and Almond Cream.

Ointment of Rose Water,	5 parts.
Oil of Sweet Almonds,	5 "
Glycerine,	5 "
Boric Acid,	5 "
Solution of Soda (U. S. P.)	12 "
Mucilage of Quince seed, 2	
drachms to pint,	25 "
Water sufficient to make,	25 "
Oil of Bitter Almonds, Oil of	
Rose, of each sufficient to	
perfume.	

Heat the ointment, oil and soda together, stirring until emulsion is formed; then warm together

the glycerine, acid, mucilage and 150 parts of water, mix with the emulsion, stir until cold, and make 200 parts by adding water, then add the perfume.

It will be noticed this preparation does not contain honey at all. It is probably all the better for the omission.

Madam Ruppert's Face Bleach.

Corrosive Sublimate,	1 grain.
Tincture of Benzoin,	7 grains.
Water,	500 "
Mix.	— <i>Western Druggist.</i>

Firwein.

Dr. Lewis gives the following formula for this preparation:

Solut'n Bromide, Iodine and Phos-	
phorus,	1 ounce.
Fir Bark (coarse powder)	1 "
White Pine Bark (coarse powder),	$\frac{1}{2}$ "
Tamarac Bark (coarse powder),	$\frac{1}{2}$ "
Diluted Alcohol,	16 fl. ozs.
Sugar,	4 ounces.

Percolate the barks with the diluted alcohol until 113 fluid ounces are obtained; remove the tannin, add the solution; dissolve the sugar; allow it to stand 24 hours, and filter.

The solution of bromide iodine, and phosphorus is made thus:

Phosphorus,	10 grains.
Iodine,	170 "
Bromine,	170 "
Alcohol,	1 fl. ounces.
Glycerine sufficient to make,	8 fl. "

Dissolve the iodine in the alcohol, then add the glycerine, then bromine, and lastly, the phosphorus gradually, in fine shavings, being careful to add it very slowly.—*New Idea.*

Haines' Golden Specific for Opium Habit.

Bayberry Root Bark, powdered,	16 ounces.
Ginger, powdered,	8 “
Capsicum, powdered,	1 ounce.
Mix.	— <i>Western Druggist.</i>

Strong's Arnica Jelly.

The following formula may be taken as one that will duplicate the original article in all its essential points:

Glycerine,	1 fl. ounce.
Water,	1 fl. ounce.
Starch,	120 grains.
Fl. Extract Arnica,	2 fl. drachms.
Spts. Bitter Almond (1 in 8)	2 minims.
Carbolic Acid,	8 minims.

Mix the glycerine and water, and add the starch and rub up with a pestle until a perfectly smooth mixture results, then heat over a direct flame with constant stirring until a perfectly smooth jelly results; allow to cool, and when nearly cold incorporate the fluid extract, almond and carbolic acid.

Allen's World's Hair Retsover.

Sulphur,	6 parts
Acetate of Lead,	8 "
Glycerine,	100 "
Water (flavored),	200 "

Dissolve the acetate of lead in the water, then add the glycerine and sulphur and aromatic water may be used for making this preparation.—*American Pharmacist*.

Heber's Cancer Paste.

White Arsenic,	2 drachms.
Gum Kino,	2 ounces.
Cinnabar,	2 ounces.
Hydrastis Canadensis,	4 drachms.

Make the above ingredients into a paste with simple ointment composed of white wax and olive oil. Apply a thinly spread layer to the cancerous surface for twenty-four hours, or it may be rubbed on an eruptive surface once in twenty-four hours. If the cancer is large or covers considerable surface, the application should be premised by preparation of the system by giving the hydrated sesqui oxide of iron in full doses for a few days, to counteract the effect of the arsenic on the system.

Cobb's Pills.

The following is said to be the composition:

Extract of Hyoscyamus,	1 drachm.
Extract of Conium,	1 "
Extract of Colocynth,	22 grains.
Extract of Nux Vomica,	8 "

Mix. Divide into 60 pills.

Sea Shore Diphtheria and Sore Throat Specific.

This formula will make a preparation practically similar to the original:

Sol. Chloride of Iron,	18 minims.
Zinc Chloride,	2 grains.
Magnesia Chloride,	2 “
Sodium Chloride,	4 “
Chlorate of Potassium,	6 “
Water,	2 fl. ounces.
Mix.	

Malvina Cream.

This pleasing ointment is put up in white glass ointment jars. It is a white, pleasant appearing and pleasant smelling ointment. The following formula will make a preparation very closely resembling the original:

Saxoline,	265 grains.
White Wax,	50 “
Spermaceti,	30 “
Bismuth Oxychlorate,	40 “
Spts. Rose (4 dr. oil to pint),	20 minims.
Oil of Bitter Almonds,	1-10 minims.

Warm the saxoline, white wax and spermaceti together until melted. While cooling incorporate the bismuth and the mercuric chloride, this last previously dissolved in a little alcohol, and when nearly cold stir in the perfumes.—*New Idea.*

Dr. D. B. Hair's Asthma Cure.

The following formula may be taken as a duplicate of the original mixture:

Potassium Iodide,	1 ounce.
Tar Water,	16 fl. ounces.
Caramel sufficient to color or	30 grains.

Mix. Tar water may be made as by the same process as U. S. P. syrup of tar, omitting, of course, the sugar. Make same strength per pint as U. S. P. syrup of tar.

Another formula, by Dr. Elmore Palmer in the *Medical World*, gives very satisfactory results. It is as follows:

Wine of Tar,	14 ounces.
Iodide of Potassium,	220 grains.

Make a solution. Shake well before taking. Make the wine of tar for the above as follows:

Common Pine tar,	2 drachms.
Sherry Wine,	2 pints.
Pine Sawdust,	$\frac{1}{2}$ ounce.

Mix the tar with the sawdust so as to form a sort of powder; then macerate it for a week with the wine and then filter through paper.

Keating's Cough Lozenges.

Lactucarium,	$7\frac{1}{2}$ grains.
Ipecac,	$3\frac{3}{4}$ grains.
Squills,	3 grains.
Extract Licorice,	3 drachms.
Mucil. Tragacanth, sufficient.	

Mix and divide into lozenges, each weighing about 19 grains.

Compound Oxygen.

(1.) *Compound Oxygen*.—A colorless acqueous solution of nitrate of ammonia and nitrate of lead, the two salts being in nearly equal proportions and together forming about three per cent of the solution.

(2.) *Oxygen Aquae for Digestion*.—One of the grades of compound oxygen, a colorless, and tasteless liquid, found to be water, of a commendable degree of purity, quite free from sophistications; probably this is the original compound oxygen.

(3.) *Compound Oxygen, Dr. Green, 1880*.—An aqueous solution of nitrate of ammonia with a very little nitrate of lead.

(4.) *Compound Oxygen*.—A white crystalline solid, obtained analysis five years ago, and then found to be nitrate of ammonia alone. Contains all the vitalizing elements of the atmosphere, but combined in a different way.

(5.) *Compound Oxygen*.—Sent out from Boston. A colored fragrant liquid consisting of alcohol, chloroform and balsam of tolu.

(6.) *Compound Oxygen. Dr. O'Leary*.—Contains alcohol, chloroform, bitter almond, balsam of tolu, and red coloring matter.

The first two samples (emanating from, we think, Drs. Starkey and Palen, of Philadelphia), was sent to Prof. Prescott for analysis, by the editor of *Good Health*, who remarks as follows:

“It should be remembered that this solution is to be used by inhalation, a teaspoonful being added to a small quantity of warm water, through which

air is drawn by means of a glass tube. Neither of the substances contained in the solution is used, so that it is impossible for any medicinal property whatever to be imparted by this boasted remedy, except what comes from the warm water, which is itself very healing when used the right way, as we have demonstrated in hundreds of cases."

Prof. Prescott also tested the vapor given off from the pure solution when it was boiled, but found nothing more than the vapor of water.

The compound oxygen is usually accompanied by what the manufacturers are pleased to call "Oxygen Aquae," which they recommend their patients to take as an aid to digestion. The analysis of this showed it to contain nothing but water. The most careful tests revealed nothing but this.

—D. C.

Lee's Anti-Bilious Pills.

Calomel,	30 grains.
Jalap,	60 "
Gamboge,	12 "
Tartar Emetic,	3 "

Beat into a mass and make into 24 pills; mix with gum arabic or extract dandelion.

Dose—Three to five pills as a purgative.

Brown's Male Fern Vermifuge.

The following formula makes a preparation sufficiently near the original for all ordinary purposes

Fl. Ext. Male Fern,	3 fl. ounces.
Oil Wintergreen,	1 minim.
Simple Syrup,	5 fl. ounces.

Mix.

Bull's Blood Syrup.

Iodide of Potass.,	12 drachms.
Red Iodide of Mercury,	2 grains.
Tincture of Poke Root,	3 drachms.
Comp. Syrup of Stillingia,	6 ounces.
Simple Syrup to make	1 pint.

Mix. —*National Druggist.*

Brinkerhoff System of Treating Piles and Other Diseases of the System.

The following is the Brinkerhoff system or secret pile remedy:

Carbolic Acid,	1 ounce.
Olive Oil,	5 ounces.
Zinc Chloride,	8 grains.

Mix. Inject into the largest piles, eight drops into the medium sized piles, from four to six drops, into club-shaped piles near the anal orifice, two drops.

He directs hot sits-baths for cases where violent pains follow an injection. He recommends an interval of from two to four weeks between each injection.

The following is the formula for his "Celebrated Ulcer Specific:"

Dist. Extract Hamamelis,	5 drachms.
Liq. Ferri Subsulph,	1 drachm.
Acidi Carbolici, Cryst.,	2 grains.
Glycerine,	2 drachms.

Mix. For Fistula in Ano, inject from 10 to 15 drops deep into the fistula with the finger, to force the fluid more deeply in.

In case of rectal ulcer he gives the following treatment:

To an ounce and a half of water add half a teaspoonful of the "Ulcer Specific," and a half teaspoonful of starch, and inject into the rectum every night. Sometimes he orders an injection of starch into the rectum of mornings, after the bowels have moved.

The "Brinkerhoff System" as applies to the fissures of the anus is this:

Once or twice a month as the itinerant comes around on his circuit he inserts a speculum, cleans out the ulcer and applies to it a solution of nitrate of silver, forty grains to the ounce. Between the applications the patient uses a morning and evening treatment himself. Each morning he is to evacuate the bowels, then inject the rectum with lukewarm water, and finally insert into it a little ointment consisting of three grains of carbolic acid and eight grains of sulphur to an ounce of vaseline or lard. For evening treatment he uses "Brinkerhoff's Ulcer Remedy" given above as "Ulcer Specific." Add half a teaspoonful of this to the same quantity of starch and about an ounce and a half of water. Inject this into the rectum every evening.

In treating polypus he directs his itinerants to tie the pedicle close to the wall of the gut with waxed saddler's silk. Then if the pedicle is long, they are to snap it off outside the knot, if it is short they leave it *in situ*, put the patient to bed, and constipate the bowels for about three days, when they are to give a gentle cathartic.

Grandmother's Own Cough Remedy.

An exactly similar preparation is made in the following manner:

Liquid Tar,	5 grains.
Fluid Extract Hemlock,	1 fl. drachm.
Powdered White Sugar,	2 ounces.

Rub well together, and then add:

Alcohol,	$\frac{1}{2}$ fl. ounce.
Water,	$1\frac{1}{2}$ fl. ounces.
Molasses,	3 “
Fluid Extract of Ipecac,	8 minims.

Mix these well together, and finally add:

Chloroform,	1 fl. drachm.
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Mix. This cough mixture comes in a green panel bottle containing $7\frac{1}{2}$ fluid ounces.—*New Idea.*

Pope's Cure for Neuralgia.

Iodide of Potass,	4 drachms.
Extract Conium,	1 drachm.
Comp. Tinct. of Cinchona,	2 fl. drachms.
Syrup of Sarsaparilla,	4 fl. ounces.

Mix. Teaspoonful three times a day.

Kephalgine.

This remedy for headache consists of the following ingredients:

Antipyrine,	5 parts.
Roasted Coffee,	5 “
Caffeine,	2 “
Salicylate of Sodium,	2 “

Mix.

Chamberlain's Relief.

Tincture of Capsicum,	1 ounce.
Spts. Camphor,	$\frac{3}{4}$ “
Tincture Guaiac,	$\frac{1}{4}$ “
Color Tincture to make	2 ounces.
Mix.	

Moseley's Cure for Consumption and hæmoptysis.	
Zinc Sulphate,	6 parts.
Alum,	4 “
Water,	480 to 600 “
Cochineal, sufficient to color.	

Yellow Family Drops.

Opium,	2 ounces.
Sapo Virid,	1 pound.
Croci Opt.,	$2\frac{1}{2}$ ounces.
Spts. Rosemary,	2 pounds.
Mix, digest for a week, and then add:	
Oil Rosemary,	2 fl. ounces.
Oil Origanum,	2 “
Camphor,	2 “
Mix well.	

To make the Spirits of Rosemary, take:

Rosemary,	3 ounces.
Alcohol sufficient to make	2 pounds.

—Prof. Waugh.

Flagg's Relief.

Oil of Cloves, about	1 drachm
Oil of Sassafras, about	2 drachms.
Spirits of Camphor, about	$2\frac{1}{2}$ “
Mix.	
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Hartley's South American Cure.

A bottle of this nostrum was subjected to an analysis, and was found to contain about the following:

Fluid Extract of Rhubarb,	8 parts.
Fluid Licorice, }	of each, 2 “
Fluid Anise, }	
Fluid Capsicum,	$\frac{1}{3}$ “
Fluid Aloes,	$\frac{1}{6}$ “
Alcohol,	6 “
Water sufficient to make	32 “

Add a small percentage of soda bi-carbonate, say about ten grains to the ounce.

Woolford's Sanitary Lotion.

A preparation substantially the same as the original is made as follows:

Sodium Hydrate,	3 drachms.
Sulphur,	5 “
Water to make	1 pint.

Dissolve the sodium hydrate in 4 or 5 ounces of water, add sulphur, and boil until the preparation has a reddish-brown color, which will require 15 or 20 minutes. It may now be diluted to one pint, and sulphureted hydrogen passed through it for a few minutes, and then filtered.

The following formula might be used with the same results:

Sublimated Sulphur,	1 pound.
Lime,	$\frac{1}{2}$ “

Slack the lime and make it into a uniform mixture with five pints of water; add the sulphur and ten pints more of water; boil for one hour with constant

stirring, replacing occasionally the water that has been lost by evaporation; then cover the vessel and allow the mixture to cool. Pour off. The clear solution will consist of a solution of sulphide and the sulphate of calcium. This last formula is based upon the method of preparing precipitated sulphur according to the U. S. P.

Hinkley's Bone Liniment.

Oil of Wormwood,	40 minims.
Oil of Hemlock,	2 drachms.
Oil of Thyme,	2 "
Oil of Turpentine,	4 "
Fluid Ext. of Capsicum,	1 drachm.
Alcohol to make,	4 ounces.
Mix.	— <i>From Olson.</i>

Wistar's Balsam of Wild Cherry.

Fl. Ext. of Wild Cherry,	1 fl. ounce.
Fl. Ext. of Ipecac,	2 fl. drachms.
Fl. Ext. of Squills,	2 fl. "
Tinct. Opium,	1 drachm.
Tartar Emetic,	2 grains.
Sugar House Syrup,	3 fl. ounces.
Alcohol,	6 fl. drachms.
Sp. Anice,	20 minims.
Tinct. Cudbear Comp., N. F.,	2 drachms.
Water sufficient to make	8 fl. ounces.
Mix.	

Kennkle's Vegetable Worm Syrup.

This preparation is put up in an oval, green bottle, which holds about $4\frac{1}{2}$ fluid ounces. According to our examination, each bottle contains:

Santonine,	27 grains.
Oil of Sassafras,	1 drop.
Alcohol,	2 fl. ounces.
Fl. Ext. of Pink Root,	2 fl. "
Fl. Ext. of Dandelion,	$\frac{1}{2}$ fl. ounce.
Fl. Ext. of Golden Seal,	$\frac{1}{4}$ fl. "
Molasses,	$\frac{1}{2}$ fl. "

The santonine in a finely triturated condition.

—*New Idea.*

Pimple Lotion.

Carbolic Acid,	1 drachm.
Borax,	4 drachms.
Glycerine,	2 fl. ounces.
Tannin,	2 drachms.
Alcohol,	3 fl. ounces.
Rose Water,	10 fl. "

Mix and dissolve. Apply night and morning.

Clark's Blood Mixture.

Iodide of Potassium,	64 grains.
Chloric Ether,	4 drachms.
Liquor Potass.,	30 drops.
Water,	$7\frac{1}{2}$ fl. ounces.

Mix. The chloric ether is dissolved in one part by weight of chloroform in nineteen parts by volume of alcohol.

Color the above with a little caramel.

Mathieu's Vermifuge.

Tin Filings,	1 ounce.
Fern Root,	$\frac{3}{4}$ "
Worm Seed,	$\frac{1}{2}$ "
Extract of Jalap,	1 drachm.
Sulphate of Potassa,	1 drachm.
Honey to form an electuary.	

A teaspoonful every three days, then substitute the following:

Jalap,	2 scruples.
Sulphate of Potassa,	2 "
Scammony,	1 "
Gamboge,	10 grains.

Make into an electuary with honey, and give the same dose as the preceding.

Edwards' Alterative and Tonic Bitters.

Fl. Ext. of Hops,	16 fl. ounces.
Fl. Ext. of Red Cinchona,	8 fl. "
Fl. Ext. of Sarsaparilla,	6 fl. "
Fl. Ext. of Hydrastis,	6 fl. "
Fl. Ext. of Podophyllin,	4 fl. "
Oil of Wintergreen,	6 fl. drachms.
Oil of Sassafras,	3 fl. "
Oil of Peppermint,	2 fl. "
Oil of Lemon,	2 fl. "
Sugar,	6 pounds.
Alcohol,	2 gallons.
Water enough to make	12 "

Humley's Colic Cure for Horses.

Laudanum,	1 ounce.
Essence of Peppermint,	1 “
Spirits of Nitre,	1 “
Ether,	1 “
Bicarbonate of Sodium,	$\frac{1}{2}$ “
Whisky,	4 ounces.
Linseed Oil,	4 “

Mix.

This formula is spoken of very highly, and used, in a number of cases, with the very best results in the shortest time.—*Drug Circular*.

St. John's Liniment.

Turpentine,	7 ounces.
Sweet Oil,	3 “
Tincture Arnica,	4 “
Oil Origanum,	1 ounce.
Oil Hemlock,	1 “
Oil Juniper,	1 “
Oil Amber,	2 ounces.
Laudanum,	2 “
Spirits of Ammonia,	$\frac{1}{2}$ ounce.
Camphor,	$\frac{1}{2}$ “

Mix.

Lownde's Magic Cream.

Hydrag. Ammoniat.,	1 part.
Oxide of Zinc,	3 parts.

This must be thoroughly incorporated in powder, sufficient glycerine, and lard then added to make a stiff cream. An application for venereal ulcers.

Meibom's Pectoral Balsam.

Benzoin,	10 parts.
Dragon's Blood,	10 "
Opium,	10 "
Bals. Peru,	10 "
Spermaceti,	5 "
Butter,	10 "
Oil Sweet Almonds,	50 "
Oil Turpentine,	100 "
Acetic Acid,	2 "

Digest for five days, frequently shaking, then strain through linen.

To be rubbed on the breast once daily, and taken internally once or twice daily, in doses of from ten to fifteen drops, for coughs and catarrh.

French Uterine Pad.

Blue Cohosh.	1 troy ounce.
Powdered Guaiac,	2 troy drachms.
Witch Hazel,	1 troy ounce.
Ergot,	$\frac{1}{4}$ troy ounce.
Cinchona,	1 troy ounce.
Angelica,	$\frac{1}{2}$ troy ounce.
Oil of Tansy,	4 fl. drachms.
Oil of Stillingia,	4 fl. drachms.
Oil of Lobelia,	4 fl. drachms.
Oil of Lavender,	4 fl. drachms.
Oil of Eucalyptus,	1 fl. ounce.

Mix. Grind the drugs to a moderately fine powder and mix with the oils. Make into an oblong bag, and wear over the abdomen.

Castoria.

Senna,	4 drachms.
Manna,	1 ounce.
Rochelle Salts,	1 “
Fennel (bruised,)	1½ drachms.
Boiling Water,	8 fl. ounces.
Oil of Wintergreen,	Sufficient.

Mix. Pour the water on the ingredients. Cover and macerate until cool; strain and add the sugar; dissolve by agitation, and then add the oil of wintergreen to flavor.—*Indiana Pharmacy.*

Falkes' Sulpholine Cream.

Very Thick Mucilage of Quince Seeds, 300 parts.

Glycerine, 40 parts.

Sulpho Carbolate of Sodium, 20 parts.

The mucilage is prepared with rose water, or the completed preparation is scented with it, and if the finished preparation should not assume a pink tinge of itself the same can be given with a little eosine or carmine red.

This should be a splendid preparation for chapped hands or any roughness of the skin, and for inveterate obstinate eruptions, black heads and pimples.—*New Idea.*

Begg's Fever and Ague Pills.

Each pill contains one grain of sulphate of quinine, one-half grain cinchona sulphate, rhubarb one grain, with a little flavoring. These pills are put up in a half ounce plain vial, they are uncoated and each bottle contains 32 pills, and the balance of the space contains powdered licorice. This is an excellent ague cure.—*New Idea.*

Lightburn's Liquid Veterinary Blister.

Powd. Cantharides,	1 ounce.
Oil of Turpentine,	8 fl. ounces.
Water of Ammonia,	4 fl “
Olive Oil,	2 fl “
Oil of Sassafras,	1 fl. ounce.

When dispensed, direct that the surface to be blistered be washed off with hot water and dried,—that the liquid be rubbed in against the way the hair grows. When applying a blister the animals head should be tied so that it cannot get its mouth to the spot being blistered, and the pharmacist should caution his customer to that effect.—*Drug-gist Circular.*

Parson's Purgative Pills.

Aloes,		1 grain.
Calomel,	} of each,	$\frac{1}{2}$ grain.
Powd. Colocynth,		
Gamboge,		
Soap,		
Mandrake Root,		
Oil Peppermint,		

Mix.

Kline's Painless Cancer Plaster.

White Wax,	1 ounce.
Fir Balsam,	2 ounces.
Chromic Acid,	1 ounce.

Melt the wax and balsam together and add the acid slowly while cooling. Remove the cuticle by blistering if necessary, and apply the plaster spread upon thin muslin. When a sufficient depth of tissue has been destroyed slough out with poultices if necessary.

Micajah's Medicated Uterine Wafers.

The exact formula of this nostrum is, of course, not known, but the following will duplicate the original sufficiently near for all purposes:

Mercury Bichloride,	$\frac{1}{16}$ grain.
Zinc Sulphate,	5 grains.
Bismuth Subnitrate,	15 "
Acacia,	5 "
Carbolic Acid,	3 "
Water sufficient.	

This formula, with the exception of the acacia and bismuth, has been used by the medical profession for a long time for onycha, etc.

Ford's Balsam of Hoarhound.

Hoarhound Herb,	$3\frac{1}{2}$ pounds.
Licorice Root,	$3\frac{1}{2}$ "
Water,	8 pints.

Infuse for 12 hours, then strain off six pints. To these add:

Camphor,	10 drachms.
Opium,	1 ounce.
Benzoin,	1 "
Dried Squills,	2 ounces.
Oil of Anise Seed,	1 ounce.
Alcohol,	12 pints.

Macerate for one week, and then add $3\frac{1}{2}$ pounds of honey.

Lee's Gravel Remedy.

Sapo Virid,	4 ounces.
Sal. Nitre Pulv.,	4 "
Oil of Juniper,	4 "
Gum Arabic Pulv.,	1 ounce.
Sal. Absynth.,	1 "

Dose—one pill three times a day on an empty stomach.

Keep the mass entirely excluded from the air, in a bladder or wide mouth bottle covered with oil skin. Make the pills about the size of buckshot. Drink dandelion tea for a constant drink.

Barker's Nerve and Bone Liniment.

The following preparation is not to be easily distinguished from the original:

Camphor,	70 grains.
Oil of Tar,	$\frac{1}{2}$ fl. drachm.
Oil of Thyme,	1 fl. "
Oil of Turpentine,	2 fl. drachms.
Lubricating Oil,	2 fl. ounces.
Mix.	— <i>New Idea.</i>

Gouche's Mexican Cough Syrup.

The following formula makes a preparation which is scarcely to be distinguished from the original:

Fluid Ext. Wild Cherry,	4 fl. drachms.
Glycerine,	12 fl. "
Simple Syrup,	4 fl. "
Syr. of Tar, q. s. to make	6 ounces.

Mix. This preparation is put up in a square, deeply paneled bottle, with red labeling and black lettering, giving use and directions both in English and German.—*New Idea.*

Little Hop Pills.

These are a sugar-coated pill, and allowing about five grains for the sugar-coating, the following formula will closely resemble the original:

Podophyllin,	3 grains.
Extract Colocynth,	6 “
Oil Peppermint,	1 drop.
Extract Rhubarb,	sufficient.

Mix. Divide the mass into 12 pills, and sugar-coat.

—*New Idea.*

Metz's Balsam.

Metz's Balsam is said to be prepared as follows:

Linseed Oil,	90 parts.
Olive Oil,	90 “
Oil of Laurel Berries,	15 “
Turpentine,	30 “

Melt by a gentle heat, then add:

Powdered Aloes,	4 “
Powdered Verdigris,	6 “
Powdered White Vitriol,	3 “

Pour into a bottle, and then add:

Oil of Juniper,	7 “
Oil of Cloves,	2 “

Mix by shaking. This preparation is used for dressing wounds, ulcers, boils, etc.—*Nat. Druggist.*

Chamberlain's Colic, Cholera and Diarrhœa Remedy.

Tinct. Capsicum,	20 fl. drachms.
Tinct. Camphor,	16 fl. “
Tinct. Guaiacum,	12 fl. “
Alcohol,	1 ounce.

Mix.

Augsburg Essence of Life.

Rad. Rhei,	1 ounce.
Myrrh,	2 ounces.
Rad. Gentian,	2 ounces.
Croci Opt.,	$\frac{1}{2}$ ounce.
Camphor,	$\frac{1}{2}$ ounce.
Rad. Zedoar,	1 ounce.
Rad. Angelica,	$2\frac{1}{2}$ ounces.
Castor,	$\frac{1}{2}$ ounce.
Aloes Soc.,	2 ounces.
Spts. Vini Rect,	2 pints.
Aqua.	2 pints.

Digest for five days then filter.

Dose—A teaspoonful twice a day.

Malvina Lotion.

(An addition to Malvina Cream.)

The following formula will make a preparation in most respects similar to the original.

Make an emulsion of almonds (2 drachms to 1 pint) with rose water. In one pint of this fluid dissolve 2 grains of mercuric chloride, and suspend in the liquid three drachms of zinc oxide.—*New Idea.*

Dr. Green's Nervurena.

The composition of this nostrum appears to be about the following:

Tict. Coca,
Tinct. of Damiana,
Tinct. of Calisaya, of each, equal parts.

Brodie's Liniment for Asthma.

Oil of Stillingia,	4 drachms.
Oil Cajeput,	2 drachms.
Oil of Lobelia,	1 drachm.
Alcohol,	1 ounce.

Mix.

Bathe the chest and throat three times a day.

Bareel's Indian Liniment.

Tr. Capsicum,	1 drachm.
Oil Origanum,	} of each ½ ounce.
Oil Sassafras,	
Oil Pennyroyal,	
Oil Hemlock,	
Alcohol,	1 quart.

Mix.

—*New Idea.*

Schenck's Pulmon'e Syrup.

This formula was given by an old lady who professed to know all about the late Dr. Schenck when he commenced:

Wormwood,	} Of each,	½ ounce.
Catnip,		
Tansy,		
Hyssop,		
Hoarhound,		
Hops,		
Camomile,		
Comfrey,		
Senega,		
Elecampane.		

Boil with sufficient water to make, after straining, one quart, then add:

Gum Arabic,	} Of each,	1½ ounces.
Licorice,		

Then one good sized Indian Turnip, and finally
add:

Sugar,	3 pounds.
Brandy,	½ pint.
Juice of two Lemons.	—H. M. Wilder.

Laville's Gout Cure.

This nostrum is said to be composed of the following:

Quinine,	7.7 grains.
Cinchonine,	9.3 “
Colocynthe,	3.8 “
Lime Salts,	7.6 “
Coloring matter,	4.6 “
Alcohol,	3⅓ fl. drachms.
Water,	2⅓ “
Port Wine,	1234 “

Mix. —National Druggist.

Kickapoo Indian Oil.

This extensively advertised nostrum is put up in a round, green bottle about four inches long, and contains about ten fluid drachms of the mixture. Its contents are similar to many now on the market, and consist of:

Camphor Water.	½ fl. ounce.
Oil Turpentine,	1 fl. drachm.
Oil Peppermint,	½ “
Oil Wintergreen,	½ “
Tincture of Capsicum,	½ fl. drachm.
Alcohol sufficient to make,	1 pint.

Mix.

Eno's Fruit Salt or Fruit Powder.

Soda Bicarbonate,	163 parts.
Tartaric Acid,	150 "
Rochelle Salts,	110 "
Mix.	— <i>New Idea.</i>

King's New Discovery.

The following will represent its composition:

Sulph. Morphia,	8 grains.
Fl. Ext. of Ipecac,	$\frac{1}{2}$ drachm.
Chloroform,	60 drops.
Tinct. of White Pine,	2 ounces.
Water,	7 "
Carbonate of Magnesia,	$\frac{1}{4}$ "
Sugar,	14 "

Rub the magnesia with one ounce of sugar in a mortar; triturate with white pine and ipecac; gradually add water, and triturate with mixture in mortar; filter and dissolve the morphia in filtrate; mix chloroform with remaining sugar in a bottle; add the liquid; keep in tight bottle.

Rogers' Anti-Neuralgic Pills.

Assafoetida,	10 grains.
Extract Valerian,	10 "
Galbanum,	10 "
Castoreum,	10 "

Mix. Make ten pills.

Dose—three or four pills a day.

Locock's Pulmonic Wafers.

Sugar,	10 drachms.
Starch,	10 "
Gum Arabic,	5 "
Lactucarium,	75 "
Vinegar of Squills,	} Of equal parts.
Oxymel of Squills,	
Wine Ipecac,	

The last three are to be mixed and evaporated to one-sixth the original bulk, and added to the powders in quantity sufficient to make a mass of proper consistence. This is to be divided into lozenges of $7\frac{1}{2}$ grains each.

Tamar Indien.

Tamarand Pulp,	450 parts.
Powdered Sugar,	40 "
Powder Sugar of Milk,	60 "
Glycerine,	50 "

Mix and evaporate to the consistancy of a soft extract, then add—

Powder Anise,	10 parts.
Essence of Lemon,	3 "
Tartaric Acid,	3 "

Mix and divide into 100 boluses and roll in the following mixture—

Cream of Tartar,	5 parts.
White Sugar,	35
Sugar of Milk,	35
Tragacanth,	2
Tartaric Acid,	2
Powdered Red Sandal,	25

Dry and put up in tin foil.

Lee's Lithontriptic.

Powdered Castile Soap,	2 ounces.
Carbonate of Potassium,	4 drachms.
Nitrate of Potassium,	2 "
Powdered Gum Arabic,	5 "
Oil of Juniper,	2 fl. drachms.
Mix.	— <i>Druggists Cir.</i>

Carter's Little Liver Pills.

This formula closely resembles the original:

Podophyllin,	1½ grains.
Aloes Socotrine,	1½ "
Mucilage Acacia,	Sufficient.

Mix. For headache, torpid liver, constipation and the complexion, take one pill every night. As a purgative take 4 to 8.

The weight of 12 pills is about 7½ grains, of which probably 2¼ grains is the sugar coating.

Ayer's Hair Vigor.

Acetate of Lead,	3 parts.
Sulphur lac,	2 "
Glycerine,	14 "
Water,	80 "
Mix.	

Brown's Camphorated Saponaceous Dentine.

Calcium Carbonate.	71 per cent.	
Soap,	} of each	29 per cent.
Camphor,		
Mix.		— <i>New Idea.</i>

Lavarre's Sure Cure.

Upon examination, this mixture was found to be a turbid, deep pinkish red liquid, with a sweetish saline, aromatic taste. The composition is about as follows:

Fl. Ext. Poke Berries,	80 minims.
Fl. Ext. Sassafras,	40 minims.
Liquor Ammonia Caustic,	5 minims.
Bromide of Soda,	20 grains.
Alcohol,	$\frac{1}{2}$ fl. ounce.
Oil of Peppermint,	1 minim.
Pow. Cochineal,	4 grains.
White sugar,	3 troy drachms.
Water, sufficient to make	4 fl. ounces.

The bottle is enclosed in a strawboard pipe, with a thick, light blue wrapper—*New Idea*.

Lafayette Mixture.

This is a gonorrhea mixture very extensively used in the New York hospitals and dispensaries. The formula is as follows:

Balsam of Copaiba,	$\frac{1}{2}$ fl. ounce.
Spts. of Nitros Ether,	$\frac{1}{2}$ fl. “
Comp. Spts. Lavender,	$\frac{1}{2}$ fl. “
Solution of Potassa,	1 fl. drachm.
Mucilage of Acacia, sufficient	4 fl. ounces.

Mix the balsam with the solution of potassa, then add the two spirits, put the requisite amount of mucilage into a bottle, pour the other mixture on top. Mix the whole by agitation.

In some institutions it is customary to use equal volumes of mucilage and syrup, instead of mucilage alone.—*American Druggist*.

Comedone Lotion.

Sulphuric Ether,	1 ounce.
Carbonate Ammonia,	1 “
Boracic Acid,	20 grains.
Water to make	16 drachms.

Mix and apply twice a day.

The ammonia carbonate forms a soap with the grease. The boracic acid acts as an antiseptic and the ether as a solvent.

Kline's Nerve Restorer.

Dr. R. H. Kline's great nerve restorer is made from the following formula:

Bromide of Ammonia,	3 drachms.
Bromide of Potassium,	3 “
Bicarb. of Potassium,	80 grains.
Tinct. Columbo,	6 fl. drachms.
Water,	6 fl. ounces.

Mix. Dose, teaspoonful three times a day in water.
—*Dr. Wade in Med. World.*

Edison's Polyform.

A very similar article to the original can be made from the following.

Chloroform,	2 ounces.
Chloral Hydrate,	2 “
Alcohol,	1½ “
Gum Camphor,	1 ounce.
Ether,	1 “
Morphine Sul.,	6 grains.
Oil Peppermint,	2 drachms.

Mix.

Golden Eye Water.

Sulphate of Hydrastia, 2 grains.

Distilled Water, 1 ounce.

Mix and make a solution.

This is an excellent wash for inflamed and granulated lids.

Carbolate of Iodine Inhalant.

The following is similar to Cutler's:

Compound Tinct. of Iodine, 180 minims.

Carbolic Acid No. 1, 48 "

Glycerine, 1 fl. drachm.

Water, 5 fl. drachms.

Mix and expose to the sunlight until the mixture is perfectly colorless.

Rosalind.

This is Mrs. Mary Cobb's preparation. She styles herself America's finest manicure.

Eosine, 10 grains.

White Wax, 30 "

Spermaceti, 30 "

Amber Saxoline, 410 "

Mix. The important point in the manufacture of this article is to have the aniline dye in the finest possible state of subdivision. It would not be a bad plan to use a mixture of the fatty acids from soap by precipitation of its aqueous solution with an acid. The fatty acids are soluble in alcohol, also the Eosine, and we thus have a means of incorporating the latter substance in an effectual manner. In case the fatty acids were used, probably their melting point would be sufficiently high without the addition of either wax or spermaceti.

Marshall's Pills.

Compound Ext. Colocynth,	60 grains.
Mass. Hydrarg,	60 "
Powd. Aloes,	60 "
Powd. Soap,	60 "
Powd. Rhubarb,	60 "
Mix and make into 60 pills.	

Fahnestock's Vermifuge.

Castor Oil,	48 parts.
Oil Wormwood,	48 "
Oil Anise,	24 "
Oil Turpentine,	1 part.
Tinct. Myrrh,	3 parts.
Mix.— <i>National Druggist.</i>	

Wheelock's Cough Mixture.

Sulph. Ether,	3 drachms.
Tinct. Hyoscyamus,	1 ounce.
Syrup Wild Cherry,	1 "
Syrup Tolu,	1 "
Water to make	4 ounces.
Mix.	

Ayer's (Mrs. Harriet Hubbard) Decamier Cream.

Oxide of Zinc,	2 ounces.
Glycerine,	6½ drachms.
Water,	1 drachm.
Spts. Rose (4 drachms to pint),	1 "

Triturate together until a perfectly homogeneous mass results.—*Western Druggist.*

Pleis' Fit Powder.

Bromide of Potassium,	15 grains.
Powdered Gentian,	5 "
Mix and make into one powder.	— <i>Drug Mill.</i>

Boerhaven's Bitters.

Strong Alcohol,	140 parts.
Sugar,	76 "
Aloes,	10 "
Cinnamon,	23 "
Galangal,	23 "
Zedoary,	23 "
Angelica,	23 "
Cloves,	23 "
Gentian,	23 "
Quassia, cut,	23 "
Water,	200 "
Mix.	

Lac Virginis.

Tincture of Benzoin,	10 parts.
Rose Water,	150 "

Mix. A teaspoonful of this mixture, added to a basin of water, makes an admirable cosmetic for the skin of the face and hands.

Senckenberg's Migraine Pastilles.

Methozine (Antipyrine),	4½ grains.
Antifebrin,	7½ "
Rhubarb,	¾ grain.
Calamus,	⅓ "
Cinchona,	⅓ "
Mix.	

Lead in Hair Restoratives.

There is a prevailing idea with many that the use of hair restoratives leads sometimes to partial or total paralysis. Dr. C. F. Chandler has made a report to the New York Board of Health, and when the facts of this report are taken into consideration, one cannot wonder that lead paralysis does sometimes occur from their too frequent use.

Mrs. S. A. Allen's World's Hair Restorer

Contains

Lead in solution,	5.26
Lead in sediment,	0.31

Hall's Vegetable Sicilian Hair Renewer.

One Ounce.

Lead in solution,	6.45
Lead in sediment,	0.68

Ayer's Hair Vigor.

One Ounce.

Lead in solution,	2.81
Lead in sediment,	0.08

Hoyt's Hiawatha Restorative.

This is an ammoniacal solution of nitrate of silver, containing 4.76 grains of the nitrate in one fluid ounce. It contains no other metal.

Clark's Distilled Restorative for the Hair.

One Ounce.

Lead in solution,	0.11
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Knittel's Indian Hair Tonique.

One Ounce.

Lead in solution,	5.16 grains.
Lead in sediment,	1.13 "

Chevalaer's Life for the Hair.

One Ounce.

Lead in solution,	0.22
Lead in sediment,	0.80

Pierson & Co.'s Circassian Hair Rejuvenator.

One Ounce.

Lead in solution,	1.40
Lead in sediment,	1.31

CHAPTER XX.

BALSAMS.

Universal Wound Balsam.

Powder Gum Benzoin,	6 ounces.
Balsam of Tolu, powder,	3 “
Liquid Storax,	2 “
Frankincense, in powder,	2 “
Socotrine Aloes, in powder,	3 “
Alcohol,	1 gallon.

Mix them all together and put them in a digester, and give them a gentle heat for three or four days, then strain.

Dose—30 or 40 drops may be taken on a lump of sugar, at any time, for flatulency or pain at the stomach; and in old age, where nature requires stimulation. It cannot be surpassed for cuts or wounds, and is equally good for man or animal.

Pectoral Balsam.

Tincture Tolu,	} of each,	2 ounces.
Comp. Tinct. Benzoin,		
Rect. Spirit,	4	“

Mix. Use as a pectoral in coughs and colds.

Dose—One teaspoonful.

Friar's Balsam.

Gum Benzoin,	6 ounces.
Liquid Storax,	2 “
Pulv. Aloes and Myrrh, each	$\frac{1}{2}$ ounce.
Balsam Peru,	1 “
Balsam Tolu,	2 ounces.
Extract Licorice,	2 “
Alcohol,	2 quarts.

Let it stand for two weeks with occasional agitation, and filter through paper.

A good application for wounds and cuts internally, it is stimulant, expectorant and anti-spasmodic, and is useful in asthma, catarrh, consumption and languid circulation. Dose— $\frac{1}{4}$ drachm on sugar.

Riga Balsam.

Young shoots of Fir collected in March,	2 pounds.
Rectified Spirits, } Water, } of each	5 pints.

Bruise the fir shoots, and macerate in the spirits and water for 3 or 4 days, then distill one gallon.

Riga Balsam No. 2.

Rectified Spirits,	8 ounces.
Oil Juniper, } Comp. Tinct. Benzoin, }	of each 1 ounce.

Agitate well and filter. Stimulant and diuretic; also used for sprains and bruises.

Horehound Balsam.

Extract of Horehound,	2 ounces.
Extract of Licorice,	2 “
Hot water,	$\frac{1}{2}$ pint.

Dissolve, and when cold, add:

Paregoric,	$\frac{3}{4}$ pint.
Oxymel of Squills,	6 ounces.
Tincture Benzoin,	2 “
Honey,	10 “

Mix well and strain through flannel.

Dose for an adult, $\frac{1}{2}$ to $1\frac{1}{2}$ teaspoonfuls, accompanied by a dose or two of aperient medicine.

Anodyne Balsam.

White Soap,	1 ounce.
Opium, unprepared,	2 drachms.
Rectified Spirits of Wine,	9 ounces.

Digest them together by a gentle heat for three days, then strain off the liquor, and add to it three drachms of camphor.

This balsam is of service in violent sprains and rheumatic complaints when not attended with inflammation. It must be rubbed with a warm hand to the part affected, or a linen rag moistened with it, and renewed every third hour until the pain abates.

Glycerine Balsam.

Pure White Wax,	1 ounce.
Spermaceti,	2 ounces.
Oil Almonds,	9 “

Melt these together by a moderate heat in a glazed vessel, and add:

Pure Glycerine,	3 ounces.
Balsam of Peru,	2 “

The mixture is to be stirred until nearly cold, and then pour into pots. Instead of Balsam of Peru, 12 or 15 drops of attar of roses may be employed.

Balsam of Honey.

Balsam of Tolu,	1 ounce.
Liquid Storax,	1 drachm.
Purified Opium,	15 grains.
Best Honey,	4 ounces.
Rectified Spts.,	1 pint.

Digest them together for a week, then strain the liquor. This prescription is of great use in colds and habitual coughs, unaccompanied by feverish symptoms. The dose is from one to three teaspoonfuls occasionally.

CHAPTER XXI.

NEW REMEDIES.

Aseptol Sozolic Acid.

This is a 33 $\frac{1}{3}$ per cent orthophenol sulphonic acid. It is considered by some to be superior to carbolic and salicylic acid as an antiseptic. It is soluble in water, alcohol or glycerine in all proportions.

Sozal.

(A new Antiseptic and Astringent.)

Sozal is described as occurring in crystalline granules of a strong astringent taste and faint phenolic odor; very easily soluble in water, glycerine or alcohol, yielding extremely permanent solutions.

Prof. Girard and Dr. Luscher have tested Sozal bacteriologically and clinically, and found, although, if proved to be but a weak antiseptic, it rendered excellent service as an astringent and antisuppurative in tuberculous ulcers, acute suppurations and cystitis—in this respect being similar to iodoform and to the other aluminium preparations. In the last mentioned affection it was employed in 1 per cent injections as well as internally. Dose statements and more definite therapeutical data are not given. Dr. Luscher recommends further experimentation with Sozal, which he considers preferable to aluminium acetate, on account of its extraordinary stability and great permanence.

Anthrarobin.

This compound was first introduced to the medical profession as a succedaneum for chrysophanic acid.

It is a yellowish brown powder, insoluble in water, but soluble in borated water, or in 10 parts of glycerine or alcohol.

From the fact of its not imparting to the skin that swollen or puffy character so remarkable in chrysophanic acid, as well as being less irritant, has secured for it a permanent place in the repertoire of dermatologists. It imparts to the skin a pale brownish hue, but this is easily removed by the application of soap and hot water.

Saprol.

A New Disinfectant.

Has been the subject of an investigation by Dr. Laser.

It is described as a dark brown, oily substance, which lies upon the surface of fluids to which it is added, and these extract from it its disinfectant constituents—pheno, creasol, and other products of coal tar which are soluble in water. Urine and fæces, impregnated with micro organisms, staphylococcus pyogenes, bacilli of cholera and typhoid fever, etc., can be effectually sterilized by Saprol in the proportion of 1 per cent, and it is likely to prove of value, according to the author, in the disinfection of the dejecta and of fluids on a large scale, as in cases of barracks, prisons and schools. Sewage treated with Saprol is said to retain its manurial value.

Aristol.

Aristol is a combination of iodyne and thymol, is a valuable, inodorous and non-toxic antiseptic remedy, said to be superior to iodoform, iodole and sozo-iodole. Aristol is insoluble in water and glycerine, and very sparingly in alcohol. It is very freely soluble in fatty oils. The solution must be made in the cold by stirring, as the heat causes decomposition. For the same reason, it is necessary to protect the body from light, and it must be kept in opaque bottles. It very readily adheres to the skin, and can thus be used as a powder strewn over wounds and burns.

Terpin.

This preparation is called turpentine camphor. It is produced from oil of turpentine, which has not been exposed to the air and light by the action of nitric acid. Its crystals belong to the monoclinic system. Its preparation, according to Fourine, is as follows:

Rectified Oil of Turpentine,	4 pints.
Alcohol (80 per cent),	3 "
Nitric Acid,	1 pint.

These are left in contact for several days, the resulting crystal dried between folds of bibulous paper, and recrystallized in the cold from all alcoholic solution made slightly alkaline to remove any adhering nitric acid. The product equals 12 per cent. of the turpentine used. It has been used as an expectorant in doses of 3 to 5 grains.

Nopelline.

This alkaloid is amorphous crystalline in form, and is soluble in alcohol, ether or water. It is useful in producing sleep. The sleep so produced is profound and calm. The dose is nine-tenths of a grain. It has also been found of service in facial, sciatic and interconstal neuralgia. It is one of the two alkaloids obtained from aconite napellus, and, independently of its different properties, is much more easily administered than aconitine.

Oleate of Quinine.

This is recommended by Rother, to be prepared as follows:

Anhydrous Quinine (alkaloid), 324 grains, is added to a mixture of 282 grains of oleic acid, mixed with an equal volume of alcohol. Dissolve, if necessary, by the aid of heat: filter and expel the alcohol by evaporation, and incorporate a little water with the residue. Set aside in the open air until the salt has become firm and perfectly dry. This salt contains about 52 per cent. of quinine, and may be reduced to any percentage of strength by the addition of oleic acid, petrolatum, etc.

Paraldehyde.

This is a colorless fluid of a peculiar odor and disagreeable taste. Soluble in cold water (1 in 10); also soluble in alcohol. Dose, 30 to 60 grains produce sleep. The effect is but moderately pronounced. It is best given in a little brandy, or in water with syrup of orange peel.

Terebene.

Turpentine, recently rectified,	500 parts.
Sulphuric acid, U. S. P.,	25 “

To the turpentine, in a glass flask capable of holding twice the quantity, add the acid, drop by drop, keeping the mixture cool by immersing the flask in cold water. This is important, for if the temperature be allowed to rise, other products other than terebene will be found. Upon the addition of the acid, tar-like matter immediately forms, which readily subsides. After standing for 12 or 14 hours, that the action of the acid on the oil may be more complete, the clear, supernatant liquid is decanted and distilled. A glass retort and Liebig's condenser are all that is to be desired for the successful conduction of the distillation. Simply a retort will be found sufficient, if it have a good long neck projecting into the flask, for Terebene has such a high boiling point, that its vapor is readily condensed at the ordinary temperature. Heat may be conveniently applied from a rose Bunson burner, placed so that the flame will almost, but not quite, impinge upon the glass globe of the retort.

Some few drachms of the distillate appear at 150° C., gradually increasing until the mercury marks 160°, when no further rise takes place. When this occurs, the distillation is discontinued, and in the retort is left a red-brown liquid of very complex composition. The impure Terebene thus produced must be treated with two per cent. of its weight of sulphuric acid, in exactly the same way as just detailed for the turpentine, and distilled a second

time. Both distillates will be milky, because of a little water they contain, but the last only need have the water removed. This may be done by distilling from perfectly dry potassium carbonate.

Terebene, thus made, generally answers all the requirements laid down in the books, namely, optical inactivity, boiling point 160° , neutral reaction, soluble in alcohol and ether, sp. gr. 0.860° . If, after twice treating with sulphuric acid and distilling three times, the above requirements are not met, the product must be put through the same process until it does. The precaution to use recently rectified turpentine oil must not be overlooked, for an old article will not prove satisfactory.

The keeping and dispensing of Terebene is attended with no difficulty. Light and free access of air has not perceptibly affected a sample so exposed for a period of two months.

Terebene may be emulsified as easily as turpentine, and in emulsion form, can be mixed with opiates and expectorants.

Calcium Cresylate.

(A New Disinfectant.)

This preparation is prepared by shaking one part of caustic lime with four parts of water, and adding five parts of crude cresylic acid. The resulting syrupy fluid is said to be miscible with water in every proportion; it is a great deal cheaper than crystalized carbolic acid, and besides, surpasses the latter in efficacy as a disinfectant.

Phenacetine.

This is a white crystalline powder, devoid of odor, and having a slightly burning after-taste. It is practically insoluble in water, but dissolves readily in alcohol. It was first employed by Kobler, who determined its value in pyrexia; later was used by Hinsberg and Kast, who confirmed the favorable reports. It appears to be devoid of harmful or pernicious secondary effects. It is also an important anti-neuralgic, not causing any lassitude or other disagreeable symptoms; its analgesic properties are quite marked; 15 to 20 grains may be administered a day.

Salol.

(Phenyl ether of Salicylic Acid.)

This remedy is destined to supercede salicylic acid in rheumatic affections. According to Nencky it is resolvable into phenol and salicylic acid, by action of the pancreatic juice; both these substances, without undergoing further change, being found in the urine.

Camphoric Acid.— $\begin{smallmatrix} \text{C} & \text{H} & \text{O} \\ 10 & 16 & 4 \end{smallmatrix}$

This is an oxydised product of camphor in colorless acinular crystals, almost insoluble in water, soluble in alcohol and ether. It is highly recommended as an antiseptic and astringent, particularly valuable as a disinfectant in contagious diseases. It is also very valuable as a spray in tonsillitis and bronchial troubles in 1 or 2 per cent. solutions. It is said to be an excellent remedy in night sweats of phthisis in 15 to 30 grain doses three times a day.

Naphthalin.

If Naphthalin (a production from storax), is made to act upon acetylene at a red heat, there is obtained the very important hydrocarbide naphthalin $C_{10}H_8$.

Naphthalin is ordinarily obtained from coal tar by distillation. Between 200° and 300° heavy oils pass over, out of which Naphthalin crystalizes. On cooling, the mass is pressed and purified by sublimation. This body crystallizes in very handsome, colorless crystals of peculiar odor, like tar. It is insoluble in water, but can be readily solved in hot alcohol. It is used in medicine to destroy fungi; also in diarrhea, typhoid fever and gastro-intestinal catarrh, in doses of 2-5 grains.

Napthol.

This substance is found in beautiful crystalline scales of aromatic odor. Its chemical form is $C_{10}H_8O$, slightly soluble in cold water, more easily in hot, and very readily in alcohol. It is very useful in skin diseases, and prescribed in form of ointment in 3 to 5 per cent.

Iodoform Bituminate.

This is a preparation of iodoform introduced by Dr. Ehrmann, of Vienna. It has no odor of iodoform, but retaining a slight odor of tar. Its use is similar to that of iodoform—that is to say, in the treatment of indolent ulcers and many other diseases of the skin.

Carbolate of Mercury.

Useful in syphilitic affections in from 1.4 to 1.2 gr. pills.

Iodol.

Iodol is a powder in color from yellow to pale brown, containing about 90 per cent. of free iodoform, and devoid of odor, almost insoluble in water (1 in 15,000); soluble in alcohol. It is used in the same manner and for the same purposes as iodoform. It is extensively used in granulated eye-lids.

Salicylate of Mercury.

Salicylate of Mercury is useful in syphilitic affections, and in conjunctivitis. It acts well in about 15 grains to the ounce of water, as collyrium.

Chloralamide.

This new and valuable hypnoptic appears in colorless crystals, soluble in nine parts of water, and possesses a bitterish taste. It is decomposed by an alkali or alkaline solution, with the consequent modification of the peculiar properties which render it of such value. The dose is from 20 to 40 grains, producing, within one-half hour, slumber, continuing from 7 to 9 hours. In accordance with experiments made by medical authorities it may be given in all cases of sleeplessness dependent on nervous excitement, in neurasthenia, phthisis, heart disease, spine disease, etc.

Antifebrin.

Antifebrin is a neutral chemical product derived from Acetate of Aniline at an elevated temperature by a dialytic action in which water is set free.

Antifebrin occurs as a light crystalline powder, neutral to litmus and of a slight burning but not disagreeable taste, soluble in 160 parts of cold and in 25 parts of hot water; readily soluble in alcohol, ether, chloroform, brandy, strong wine and aromatic spirits of ammonia.

Antifebrin is uniformly of absolute chemical purity, and like the chemical compounds of aniline with acids generally is a very permanent combination, undergoing distillation without decomposition, and remaining unaffected by acids and alkalies at ordinary temperatures.

Menthol.

In 1861 peppermint camphor, the stearoptene of mentha piperita essential oil, arrived from Japan in large quantities, in coarse earthen-ware, protected by paper covers; it consisted of a mass of white, fragrant, prismatic crystals, resembling those of magnesia sulphate. Gorup-Bezanetz and Oppenheim at this time demonstrated the validity of the formula established by Dumas, and showed menthol to be a monatomic alcohol. Oppenheim called the substance menthylic alcohol, or menthol.

For a long time it was only in light demand, but to the uses of menthol in headache, travelers, from time to time, called attention, and long flat vials containing a dark green or amber colored fluid were

sold as curiosities under the name of po-ho-yo-ho-ka, etc., as Japanese and Chinese headache cures. In 1871 the extensive use of the drug by the San Francisco Chinese led to Fluckiger's examination of it. In 1874 further researches on the drug were made by Mackey, Bennett and Wright.

In 1881 Dundas Dick successfully introduced the now celebrated "cone" into general use and was followed by other makes. Menthol, menthylic alcohol, menthol hydrate, peppermint camphor, peppermint stearoptene occurs in small white translucent, fragrant prismatic crystals. The American Menthol is snow white, has a softened peppermint odor when white. It has a melting point between 36.5 and 42°. The Japanese Menthol is generally semi-translucent from adherent terpene, has a camphoraceous odor; sometimes manipulated specimens have an odor of spearmint and pennyroyal. It has a melting point between 25 and 41°. Menthol volatilizes at 220°, exposed to ordinary temperatures it is gradually dissipated, especially in a humid atmosphere. It is soluble in 890 times its weight of water, and 650 times its weight of boiling water. It is very soluble in ether, alcohol, carbon disulphide, fixed and volatile oil, chloroform, benzine and petroleum. It liquifies with thymol, chloral and camphor. It combines well with fats and fat acids. Sulphurous anhydride, gaseous acid hydrochloric dissolves it readily and upon evaporation leaves the Menthol unaltered. Menthol placed upon the surface of slightly warm water exhibits rotary movements.

(*Druggist.*)

Sulfonal Sulphonal.

This chemical was discovered and named by Prof. Baumann, of Freiberg University. Chemically, it belongs to a group known as the Disulphones, and is a whitish, crystalline substance, void of odor and taste, very slightly soluble in water (1 in 600), more so in warm water, alcohol and ether. Prof. Kast determined it to be true hypnotic, devoid of pernicious secondary effects. Since his investigation of its properties it has been extensively employed, both here and abroad, and has scored much favor. It is indicated in the insomnia of gastric derangements. In insane asylums it has proved of marked utility in the treatment of insomnia, connected with various forms of dementia, etc. Repeated clinical trials have shown it to be of value in alcoholism, anginas, neurasthenia, cephalalgias, epilepsy, etc.

Eugenol Acet Amide.

A new local anæsthetic, similar to cocaine, occurs when crystallized from water, in the form of lustrous scales; when crystallized from alcohol, as delicate needles, melting at 110° C. (230 F.) It is obtained from eugenol.

Applied in the form of a fine powder it is said to produce local anæsthesia without manifesting any irritant action; this effect, in connection with the strong anticeptic property of eugenol-acetic acid, are points in favor of the new compound, securing a place in the treatment of wounds.

Patents for this preparation have been applied for.

Pillyanine.(Alkaloid of *Lycopodium Saururus*.)

This preparation has only been recently obtained in the crystalline form, as white lustrous crystals melting at 64-65° C. It is easily soluble in water, alcohol and chloroform, less soluble in ether, its salts are deliquescent and unstable. By distillation in hydrogen a volatile nicotine-like base is obtained which is most likely identical with oxy-amyl-nicotine. Its powerful physiological action is said to be exerted on the nervous system; the hydrochlorate in doses of 0.1 to 0.2 gramme (1½ to 3 grains) is capable of killing dogs. The plant itself is used in Brazil as a taenifuge.

Exalgine

Occurs in long, clear, colorless, acicular crystals, which are difficultly soluble in water, quite easy in dilute and concentrated alcohol. It is employed by Bardet and Dujardin Beaumetz, who lauded its antineuralgic effects, in doses of from 6 to 15 grains, administered several times daily. Its action was devoid of disagreeable secondary effects, such as rash, cyanosis, gastro intestinal irritation, etc.

It also possesses antipyretic characters like antipyrine. The dose required to produce a certain desired effect is only about one-half antipyrine needed.

It is eliminated by the urine modifying the urinary excretion, and diminishing, in diabetic patients, the quantity of sugar in the urine, and the amount of the latter eliminated.

Antithermine.

This compound, which is chemically allied to antipyrine, has been advanced for antipyrogenic purposes by Nicot (Nouv. Rem.). It is a yellow substance insoluble in water, but soluble in alcohol. But little is yet known of this therapeutical, physiological, or posological character.

Antinonnin.

This is the name given to a paste containing 50 per cent. of ortho-di-ditro-cresol-potassium; to prevent the paste from drying out, a small quantity of soap is added, as the absolutely dry salt is an explosive compound. Proposed first as means of protecting trees from the ravages of insects, it has since been found to be a poison for all forms of lower animal life; in quantities of less than one milligramme (1.60 grain), the pure chemical is a sure destroyer of mice, while two centigrammes (1.3 grain) will suffice for rats. As a preservative for wood, favorable experiments are reported. It is generally used in aqueous solution 2.500 in which strength it can be advantageously used in the treatment of itch; for the development of poisonous symptoms very much stronger solution must be used (1.30 applied with a brush produced poisoning of a horse). An objectionable property of the remedy is the intense yellow color, which is, in some cases, removed with difficulty.

Creolin.

This is a derivative of coal tar devoid of carbolic acid employed as a deodorizer, antiseptic and disinfectant. It is a brownish viscid liquid, insoluble in water, but forming with it a milk white emulsion. It is a great antiseptic and deodorizer, also an ointment for itch; it has also been suggested by physicians in cholera and tuberculosi.

The following combinations have been employed by some of the French confreres:

Creolinated water,	5.20 in 1000
“ ointment	1.3 in 100 lard.
“ powder,	2.4 in 100 boric acid.

For dry dressing, and compound creolin pills:

Creolin,	gr. ii-v.
Ceræ albæ,	gr. xv.
Opii pulv.,	gr. iii.
Mucilaginis,	q. s.

M. et. div. in pil., No. xxx.

In pulmonary tuberculosis the thirty pills may be administered in 24 hours.

Antipyrine.

This newly discovered substance is a derivative of chinoline, being chemically dimethyl-oxychinin. It is very readily soluble in alcohol, and even more so in water. Seven grammes dissolve in three grammes of warm water with scarcely any precipitation upon cooling of the solution. This quality is especially desirable in subcutaneous injection, facilitating its introduction by this method. The taste is much

less bitter than that of quinine. In over 120 cases of fevers accompanying different diseases, the administration of from four to six grammes of antipyrine, in doses of two grammes every hour, was found to effect the lowering of the temperature, lasting from five to six hours or more. The best results seem to be obtained from doses of two grammes (30 grains), although, in some instances, four grammes may be given, or one gramme at intervals of one hour. Half gramme doses are uncertain of results, and should only be administered to children. During the first hour after the administration, the temperature sinks one-half degree, but after the second and third hour, the fall is much more rapid. It should be observed that when the temperature has once become normal, it is several hours before it again rises. Disagreeable after-effects have never been observed, sickness of the stomach very seldom taking place.

Antipyrine and Incompatibilities.

The following is a complete list of drugs and preparations which have been found, by experiments, to be incompatible with Antipyrine.

Acid, carbolic, strong solutions a precipitate.

Acid, hydrocyanic, dilute, yellow colorations.

Acid, nitric, dilute, faint yellow coloration.

Acid, tannic, insoluble, white precipitate.

Alum, (ammonia), deep yellow coloration, fading and precipitation.

Amyl nitrite (acid), green coloration.

Chloral hydrate, strong solution give a precipitate; with weak solutions no apparent change.

Copper, sulphate, green coloration.

Decoction of cinchona bark, precipitate.

Extract (fluid) of cinchona bark, precipitate.

Glycerine of carbolic acid, precipitate.

Glycerine of tannic acid, precipitate.

Infusion of cinchona bark, precipitate.

Infusion of barberry leaves, precipitate.

Infusion (acid) of roses, precipitate.

Iron sulphate, brownish yellow coloration, deposit on standing, solution turns red.

Mercury perchloride, white precipitate, soluble in excess of water.

Solution of arsenic and mercury iodines, dense white precipitate.

Solution of iron perchloride, blood red coloration.

Solution of permanganate of potassium, reduction quickly takes place-

Soda salicylate (solid), becomes liquid.

Spts. nitrous ether (acid), green coloration.

Syrup, iodide of iron, reddish brown coloration.

Tincture, cinchona bark, (simple and compound), precipitates.

Tincture of iron perchloride, red coloration.

Tincture of galls, precipitate.

Tincture of iron, precipitate.

Tincture of kino, precipitate.

Tincture of larch, precipitate.

CHAPTER XXII.

COLLODIONS.

To Prepare Gun Cotton for Collodion.

Nitrate of Potassia, 10 troy ounces.

Sulphuric Acid, 15½ troy ounces.

Mix and stir until uniformly mixed. When cold below 122 degrees Fahr., add cotton freed from impurities, ½ troy ounce; stir with a bath rod; cover the vessel closely and after standing 24 hours, transfer the cotton to a larger vessel, and wash it, first with cold water, until the washings cease to have an acid taste, and then wash with boiling water. Press it as dry as possible with the hand, pack it tightly in a conical percolator, and pour on it stronger alcohol until the remaining water is displaced; lastly press it as dry as possible with the hand. The cotton thus prepared, and dried at a temperature not exceeding 60° C. (140° F.), weighs 336 grains.

To Prepare Collodion.

Mix 21 fluid ounces stronger ether with 6 fluid ounces stronger alcohol in a suitable bottle; add the quantity of moist prepared cotton, as prepared in the preceding formula, and shake occasionally until dissolved.

Elastic Collodion.—(Ph. Su.)

Glycerine, 50 grammes.

Collodion, Q. S. to make, 100 grammes.

Mix.

Cantharidal Collodion.

Powdered Cantharides, 8 troy ounces.

Press it firmly in a cylindrical percolater and pour on it one and one-half pints stronger ether. When fifteen fluid ounces have passed, set the liquid aside in a close vessel and continue percolation with stronger alcohol, until half pint more liquid is obtained. Set this last aside to evaporate spontaneously until reduced to one fluid ounce, then mix with it the reserved liquid; next add 100 grains dry collodion cotton (see formula for preparing gun cotton for collodion), and agitate until dissolved.

Gutta-Percha Collodion.

Gutta-Percha, thin slices, 15 grammes.

Purified Chloroform, 170 “

Carbonate of Lead, 20 “

To 120 grammes of the Chloroform contained in a bottle, add the Gutta-Percha, and shake occasionally until it is dissolved. Then add the Carbonate of Lead, previously mixed with the remainder of the Chloroform, and having shaken the whole together several times, at intervals of half an hour, set the mixture aside and let it stand for ten days, or until the insoluble matter has subsided and the solution become limpid and either colorless or of a pale straw color. Lastly, decant the liquid and keep it in a well closed bottle.

Morphia Collodion.

Collodion, 30 drachms.

Muriate of Morphia, 1 drachm.

Mix. This is used in obstinate neuralgia.

Photographic Collodion.

Collodion is the vehicle by which the photographic chemicals are united upon the surface of the glass, and the sensitive coating produced. It is made by dissolving in equal or nearly equal proportions of sulphuric ether and alcohol, gun cotton or pyroxyline, together with certain salts of potassium cadmium, ammonium, etc., in proportions named in the formula. Many formulas are published for this article to which great value is attached, some supposing that to its peculiar composition belong the principal causes of failure or success. This is only in a degree true; inferior or carelessly prepared chemicals used in any stage of the process, impair results. The writer has fixed, as a general principle in the preparation of collodion, the proportion of one grain of the exciting salts in each ounce of collodion to every ten grains of silver in the bath. To illustrate: If the silver bath solution is at 50°, or, more definitely, 50 grains of silver to each ounce of water, we would make the collodion so as to contain in each ounce of collodion 5 grains of the various salts of cadmium, ammonium, etc.; or, another way of putting it, the bath should be ten times as strong as the collodion. The sensitizing salts should be selected with a special reference to

the peculiarities of the light or subjects. It can be made under one formula to cover almost all emergencies, yet special kinds of work for extremes of light or shadow can be improved by varying the combinations of the exciting or sensitizing salts. For portraiture in a room of evenly diffused light, the iodide of cadmium, as the principal excitant, gives softness and delicacy to the image. Thus:

(No. 1.)

Sulphuric Ether,	1 ounce.
Alcohol (95 per cent.),	1 “
Gun Cotton,	6 grains.
Iodide of Cadmium,	3½ “
Bromide of Potassium,	2 “

(No. 2.)

Sulphuric Ether,	1 ounce.
Alcohol,	1 “
Gun Cotton,	6 grains.
Iodide of Cadmium,	3½ “
Bromide of Potassium,	2½ “

These two formulæ give the utmost delicacy and transparency to the shadows, and work with rapidity, when preserving their proper relations to the silver bath solution of which we speak in the proper place. If more brightness is desired to the image, instead of the iodide of cadmium, put the same quantity of iodide of ammonium. If still greater contrasts are required, use iodide of potassium in place of either the cadmium or potassium. The latter is favorable for copying engravings, maps, plans, etc., in which strong contrasts of white and

black are desirable. It is well to prepare from all these formulæ, and then modify results by mixing them together as the subjects or light may demand. Farther combinations may be suggested. Under a feeble light, or where there are large masses of shadow, reduce the amount of iodide salt one grain, and increase the bromide one grain.

In combining the ingredients, measure out the required quantity of alcohol and to it add the gun cotton and such of the exciting salts as dissolve in alcohol, and lastly the ether. Shake until all are thoroughly dissolved, and put aside over night to settle. When clear, decant into the flowing or coating bottle, for use. Such of the excitants as do not dissolve in alcohol, should be dissolved in a small quantity of water as is possible and added to the alcohol, etc., a little at a time.

Silver Bath.

Make a solution in the proportion of 60 grains nitrate of silver to one ounce of water. Test the solution with litmus paper, and if slightly alkaline or neutral, add nitric acid to reduce a faint red reaction to the paper. The best method is to add a few drops of chemically pure nitric acid to an ounce of water, and add this solution to the silver bath, very few drops at a time, then coat a plate with collodion and let it remain in the bath all night, The freshly made collodion can be used for this purpose, and thus both collodion and silver solution or bath may be made ready for work at the same time.

CHAPTER XXIII.

MIXTURES.

Thielmann's Swedish Cholera Mixture.

Oil Peppermint,	4	drachms.
Alcohol,	4	ounces.
Wine of Opium and Saffron,	1½	"
Tincture Ipecac,	4	"
Tincture of Valerian,	6	"

Dissolve the oil in alcohol, add the wines and tinctures, then filter. Dose—One-half to teaspoonful.

Compound Chalk Mixture.

Chalk Mixture,	5	drachms.
Tinct. Catechu,	1½	"
Tinct. Opium, Camphorated,	1½	"

Mix.

Guaiaac Mixture.

Guaiaac Resin,	3	drachms.
White Sugar,	4	"
Gum Arabic,	2	"
Cinnamon water to make,	1	pint.

Triturate the guaiaac and sugar together; add the gum, and, lastly, add the cinnamon water.

Milburn's Mixture.

Precipitated Chalk,	2 drachms.
Loaf Sugar,	2 “
Powdered Gum Arabic,	2 “
Mint Water (green the best),	4½ ounces.
Laudanum,	10 drops.
Spts. of Lavender Comp.,	2 drachms.
Simple Syrup,	1½ ounce.
Tinct. Kino,	1 “

Mix. Useful in loose bowels in children, and can be given to them after each alvine evacuation, regardless of number.

Dose—Half to a tablespoonful. Shake well before using.

Extract of Malt and Colt's Foot.

Colt's Foot Leaves,	3 ounces.
Spotted Lungwood,	3 “
Licorice,	2 “
Alcohol, diluted,	q.s.
Stoned Raisins,	1 pound.
Ext. of Malt to make	3 gallons.

Macerate the drugs and stoned raisins for three days in diluted alcohol, then transfer to a percolator and obtain one pint of percolate, then add the extract of malt.

Dose—One tablespoonful to half wineglass of water.

Mixture of Phosphoric Acid and Iron.

Tincture Chloride of Iron,	1 drachm.
Diluted Phosphoric Acid,	6 drachms.
Syrup,	6 “

Mix. Dose—One teaspoonful.

Aperient Iron Mixture.

Sulphate of Iron,	2 grains.
Sulphate of Magnesium,	2 drachms.
Water,	1 ounce.
Mix. Dose—One tablespoonful.	

Brown's Chlorodyne.

Burnt Sugar,	1 drachm.
Hydrochlorate of Morphia,	$\frac{1}{2}$ grain.
Distilled Water,	2 drachms.
Oil of Peppermint,	6 minims.
Diluted Prussic Acid (Ph.L.),	5 “
Tincture of Capsicum,	7 “
Chloroform,	1 drachm.

Mix. Another formula is:

Chloroform,	$\frac{1}{2}$ fl. ounce.
Sulphuric Ether,	90 minims.
Ol. Menth Pip,	8 drops.
Resin (Cannabis Indica),	8 “
Capsicum,	2 “

Mix. Shake occasionally, and allow it to stand for a few days, then add:

Morphia Muriate,	16 grains.
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Dissolve, by the aid of heat, in two drachms of water, to which add, when cold:

Scheele's Hydrocyanic Acid,	65 minims.
Perchloric Acid,	1 fl. drachm.
Molasses,	2 fl. ounces.

Add this gradually to the first mixture, and then make the whole mixture four fluid ounces by the addition of molasses. Each dose of 30 minims contains chloroform, 4 minims; ether, $\frac{1}{2}$ minim; extract hemp, $\frac{1}{10}$ grain; muriate morph., $\frac{1}{4}$ grain; hydrocyanic acid, 1 minim.

Cascara Cordial—(P. D.)

Cascara Sagrada, 100 parts.

Water, enough.

Make a decoction, filter, and add:

Sugar, 288 parts.

Dissolve, and take of:

Diluted Alcohol, 233 parts.

Flavor with the oil of orange, anise and cassia.

Mix, and then take of:

Berberis Aquifolium, 47 parts.

Coriander Seed, 17 “

Angelica Root, 2 “

Reduce to a fine powder, and percolate with the aromatic alcohol. Mix the two liquors, and then add:

Fluid Ext. Glycyrrhiza, 12 parts.

Water enough to make, 1000 “

Color this with Tincture Cudbear.

Acid Mixture of Iron.

Sulphate of Iron, 2 grains.

Sulphate of Magnesium, 1½ drachms.

Dilute Sulphuric Acid, 15 minims.

Infusion Quassia, q. s. to make 1 ounce.

Mix. Dose—One teaspoonful.

Mixture Acetate of Iron.

Tinct. Chloride of Iron, 20 minims.

Dilute Acetic Acid, 20 “

Sol. Acetate Ammonia to make 1 ounce.

Mix. Dose—One teaspoonful.

Meigs' Mixture of Gentian and Iron.

Citrate of Iron and Ammonia,	1 part.
Fluid Extract of Gentian,	$\frac{1}{2}$ part.
Compound Spirits of Lavender,	8 parts.
Alcohol,	4 "
Sugar,	12 "
Water sufficient to make	64 "

Mix the fluid extract with eight parts of water; add the compound spirits of lavender; treat this with hydrated oxide of iron, and filter; mix the other ingredients with the filtrate, and repeat the filtration if necessary.

For Tan and Freckles:

A foreign surgeon devises the following method for the removal of tan, freckles, etc.:

(Solution A.)

Potass. iodid.,	2 drachms.
Pure Iodine,	6 grains.
Glycerine,	3 drachms.
Infus. Rose,	4 ounces.

Dissolve the iodide of potassium in the part of the infusion and a drachm of the glycerine; with this moisten the iodine in a glass mortar and rub it down, gradually adding more liquid until complete solution has been obtained; then stir in the remainder of the ingredients, and bottle the mixture.

(Solution B.)

Soda Hyposulph.,	1½ ounces.
Aqua Rosa,	1 pint.

Dissolve and then filter.

The directions are as follows: With a small camel's hair pencil or piece of small sponge, apply a little of mixture A to the tanned or freckled surface until a slight but tolerable uniform brownish yellow skin has been produced. At the expiration of fifteen or twenty minutes moisten a piece of cambric, lint or soft rag with the B solution and lay it upon the affected part, removing, squeezing away the liquid, soaking it afresh, and again applying until the iodine stain has disappeared. Repeat the entire process thrice daily, but diminish the frequency of the application if tenderness be produced. In the course of three or four days to as many weeks, the freckles will either have disappeared entirely, or, their intensity will be greatly diminished. Summer freckles will yield very speedily to this treatment.

Jaccoud's Glycerine Mixture.

Glycerine,	10 drachms.
Brandy or Rum,	3 “
Oil of Peppermint,	1 drop.

Mix.

This quantity may be divided into two or three doses and taken after or between meals.

This mixture has an agreeable taste, and is facile of digestion, and does not cause disgust, after having been used several months.

Brown-Sequard's Mixture for Epilepsy.

Potassium Iodide,	8 parts.
Potassium Bromide,	8 “
Ammonium Bromide,	4 “
Potassium Bicarbonate,	5 “
Infusion of Calumba,	300 “

Dissolve.

A teaspoonful before each meal and three dessert-spoonfuls on going to bed, diluted in cases of idiopathic epilepsy. If the pulse is feeble, the potassium bicarbonate is replaced by ammonia bicarbonate, and the 300 parts of the infusion by 90 parts tincture of calumba and 270 parts of distilled water.

Horsford's Acid Phosphate.

(Said to be.)

Carbonate of Calcium,	369 grains.
Calcined Magnesia,	116 “
Carbonate of Potassium,	115 “
Phosphoric Acid, (60 pr. ct.,)	1721 “
Water, q. s. to make,	1 pint.

Langdon's Diarrhoea Mixture.

Tinct. of Camphor,	3 drachms.
Tinct. of Capsicum,	1 drachm.
Spts. of Lavender Compound,	2 drachms.
Tincture of Opium,	2 “

Mix. Dose—Twenty-five drops in a little sweetened water, after each operation.

Liquor Acidi Phosphorici Comp.

Carbonate of Calcium,	369 grains.
Calcined Magnesia,	29 “
Carbonate of Potassa,	25 “
Phosphate of Iron,	64 “
Phosphoric Acid (60 per cent.),	1705 “

Mix the acid with 8 ounces of water, add the phosphate of iron (for the latter preparation), stir until dissolved, then add the carbonate of calcium, stirring until effervescence ceases, and the freshly formed phosphate is dissolved, then add the magnesium and potassium salts, and when dissolved make, by the addition of water, the measure up to one pint.

Astringent Acid Mixture.

Arom. Sulphuric Acid,	40 minims.
Extract Logwood,	1 drachm.
Tinct. Opium (camphorated),	4 drachms.
Ginger Syrup q. s. to make	1 ounce.

Mix.

Clark's Blood Mixture.

Iodide of Potassium,	64 grains.
Chloric Ether,	4 drachms.
Liquor Potassa,	30 drops.
Water,	7½ ounces.

Burnt sugar sufficient to color.

Mix.

LOTIONS.

Clement's Almond Lotion.

Gum Senegal,	4 ounces.
Boiling Water,	1 gallon.

Strain, and when cold add:

Tinct. Benzoin,	2 fl. ounces.
Alcohol,	2 “
Corrosive Sublimate,	80 grains.

Dissolve the corrosive sublimate in the alcohol before mixing with the other ingredients.

Creosote Lotion.

Creosote,	10 grains.
Aceti,	2 fl. drachms.
Aqua,	2 fl. ounces.

Mix.

Ophthalmic Lotion.

Hydrarg Oxide Mur,	1 grain.
Mucil Sassafras,	2 drachms.
Vini Opii,	2 fl. drachms.
Aqua Rosa,	8 fl. ounces.

Mix.

Lotion for Chilblains.

Muriate of Ammonia,	$\frac{1}{2}$ ounce.
Water,	4 ounces.
Muriatic Acid,	1 drachm.
Alcohol,	$1\frac{1}{2}$ ounces.

Mix. Apply morning and evening.

Kummerfield's Lotion.

Sublimated Sulphur,	2 parts.
Glycerine,	2 “
Triturate them together, then add:	
Glycerine,	10 parts.
Spts. of Camphor,	4 “
Spts. of Lavender,	10 “
Cologne Water,	10 “
Distilled Water,	120 “

Mix, Shake well before using. This is intended as an emollient application to the skin, and particularly the face.

Spackman's Lotion.

Tinct. Myrrh,	1 drachm.
Tinct. of Camphor,	3 drachms.
Alcohol,	1 ounce.
Goulard's Extract,	1 drachm.
Solution of Morphia,	1 ounce.
Tinct. Arnica,	2 ounces.
Water,	4 ounces.

Mix.

Yellow Basilicon Ointment.

Yellow Wax,	8 ounces.
Burgundy Pitch,	3 “
Venice Turpentine,	4 “
Linseed Oil,	10 “

First melt the resin, to which add the wax and the burgundy pitch; when the whole is melted, remove from the fire and slowly add the oil, stirring well until it is cold.

Good for healing cuts, abscesses, etc.

Green Basilicon Ointment.

Yellow Wax,	} of each,	3 ounces.
Yellow Resin,		
Venice Turpentine,		6 "
Powdered Verdigris,		1 ounce.
Lard,		6 ounces.

Melt, and proceed as in the yellow ointment.

Very efficacious in healing cuts, abscesses and local affections of any kind.

Hemlock Salve.

Hemlock Ointment,	12 ounces.
Spermaceti,	2 "
White Wax,	3 "

Melt the last two, and then add them to the first, softened by a gentle heat.

Used for inveterate cancerous, scrofulous and other sores.

Green Stick Salve.

White Gum Turpentine,	} of each, 2 ounces.
Bayberry Wax,	

Melt together, strain, and stir until cold; adding olive oil will give it the consistence of an ointment.

Tar Ointment.

Tar,	} of each equal parts.
Mutton Suet,	

Mix by gentle heat, stirring until cool.

This is also an excellent remedy for scald-head.

Camphor Ointment.

Camphor, Fine Powder,	1 ounce.
Lard,	2 ounces.

Mix. This ointment is designed to ripen indolent tumors.

Black or Healing Salve.

Olive Oil,	1 pint.
Common Resin,	$\frac{1}{2}$ ounce.
Beeswax,	$\frac{1}{2}$ “
Venice Turpentine,	$\frac{1}{4}$ “

Melt, raising the oil nearly to the boiling point, then gradually add 2 or 3 ounces powdered red lead while on the fire, being careful not to burn it, boiling slowly until it becomes a dark brown color, then remove from the fire and add one drachm powdered camphor when the mixture is nearly cold.

This is an excellent remedy for burns, scalds, fistulas, ulcers, etc.

Red Salve.

Red Lead,	1 pound.
Beeswax, } of each,	2 ounces.
Resin, }	
Linseed Oil,	—
Sweet Oil,	6 drachms.
Spts. Turpentine,	1 drachm.

Melt all except the first and last together, then stir in the lead until cool, adding the turpentine.

Good for all inflamed sores.

Venice Turpentine Ointment.

Venice Turpentine,	2 ounces.
Tar,	1 ounce.
Butter,	4 ounces.

Mix. Simmer until they are thoroughly mixed.

This ointment is valuable in scald-head, ringworm, etc. First wash the head well with warm water and soap, and then apply the ointment.

Salt Rheum Ointment.

Aquafortis,	1 ounce.
Quicksilver,	1 “

Mix these in an earthen vessel, and when effervescence has ceased, add:

Lard,	1 pound.
Dissolved Hard Soap,	1 ounce.

Mix into the above 1 ounce of prepared chalk and one-half tablespoonful of Spirits of Turpentine.

Spermaceti Ointment.

Spermaceti,	5 ounces.
White Wax,	14 ounces.
Olive Oil,	1 pint.

Mix by melting together.

The article commonly sold as spermaceti ointment is composed of,

Spermaceti,	1 pound.
White Wax,	$\frac{1}{2}$ pound.
Pure Lard,	3 to 6 pounds.

Mix by melting together.

French Hospital Itch Ointment.

Chloride of Lime, 1 drachm.
Rectified Spirits, 2 fl. drachms.

Rub these together, then add:

Sweet Oil, $\frac{1}{2}$ fl. ounce.
Soft Soap, 2 ounces.
Oil of Lemon, $\frac{1}{2}$ fl. drachm.

Mix these perfectly, and then further add:

Salt, } of each, 1 ounce.
Sulphur, }

Mix. This ointment is very cheap and very effective, and much less offensive than sulphur ointment.

Phenol Sodique.

This preparation of carbolic acid is deservedly popular with the medical and dental professions. Dr. E. Wildman gives the following formula:

Carbolic Acid Crystals, 188 grains.
Caustic Soda, 31 "
Pure Water, 4 fl. ounces.

Mix.

The carbolic acid should be free from offensive odor, such as is prepared for medicinal purposes; when first mixed it is nearly colorless, but in time assumes a wine color,—does not deposit any tarry residue. This formula is the result of numerous experiments.

CHAPTER XXIV.

PART I.

MISCELLANEOUS.

COUGH MIXTURES.

Syrup Wild Cherry and Hoarhound.

Wild cherry, in coarse powder,	4 ounces.
Hoarhound,	1 ounce.
Glycerine,	1 fl. ounce.
Alcohol,	1 fl. ounce.
Sugar,	12 ounces.

Water, q. s. to make 16 fluid ounces.

Mix the glycerine and alcohol with 8 ounces of water; moisten the wild cherry and hoarhound with 2 ounces of this mixture; pack in a cylindrical percolator tightly covered; after 24 hours' maceration, proceed with percolation, using the remainder of the menstruum, and afterward sufficient water to make 10 fluid ounces of percolates; in this dissolve the sugar by agitation, without heat, and strain.

John Hunters Tooth Powder.

Cream Tartar,	3 ounces.
Alum,	4½ drams.
Cochineal,	4 “
Cinnamon,	½ “
Sugar,	1 ounce.
Mix thoroughly.	

Yerba Santa Cough Mixture.

Yerba Santa,	1 ounce.
Gemdelia, Wild Cherry, each	$\frac{1}{2}$ ounce.
Glycyrrhizu, Cubebs, each,	$\frac{1}{2}$ ounce.
Alcohol,	4 ounces.
Glycerine,	2 ounces.
Water,	4 ounces.

Exhaust the Gemdelia, etc., (all in coarse powder) with the alcohol, glycerine and water. Displace with diluted alcohol until 10 fluid ounces are obtained.

To the percolate add

Ammonia Bromide,	600 grains.
Pine Tar,	300 grains.

Digest for 5 hours. When cold, filter, and dissolve sugar, 8 ounces, by agitating, without heat, and strain.

Athlophorus.

Sulph. Morph.,	2 grams.
Fl. Ext. Colchicum Seed,	1 fl. dram.
Fl. Ext. Guaiac Resin,	1 "
Potassium acetate,	60 grains.
Potassium Salicylate,	60 "
Dilute Alcohol,	$\frac{1}{2}$ fl. ounce.
Syrup of Squill q. s. to make	6 fl. ounces.

Mix by applying gentle heat. The Syr. of Squill should be prepared by digesting over night 180 grains of Squill Root in hot water sufficient to make infusion when strained of 3 fluid ounces. In this is dissolved 8 troy ounces glucose by gentle heat.

How to Make a Hektograph.

In a hollow tin pan, with square bottom and of convenient size, is poured, while hot, a mixture composed of

Gelatine,	1 ounce.
Molasses,	1 ounce.
Glycerine,	9 ounces.

By weight, melted together in a water bath. When cold and firm, the surface is slightly moistened with a damp sponge, and the original, previously written with the ink, is laid on this for a few minutes, being pressed smoothly, then carefully removed, starting with a corner. It is now ready for copying, and in the first copies taken the paper must be laid on gently, to prevent blotting. When no more copies are desired, the ink can be removed with a wet sponge. After continued use, when the mass becomes rough, it can be melted and worked over.

The following is a cheap and very good formula:

Glue,	7 ounces.
Glycerine,	30 ounces.
Carbolic Acid,	$\frac{1}{2}$ ounce.
Sulphur,	1 dram.

The glue should be soaked in water several hours before it is melted with the glycerine. Barium sulphate is also as an addition.

The ink is made from aniline, as follows:

Aniline, red or violet,	2 drams.
Alcohol,	1 dram.
Acetic Acid, dil.,	1 dram.
Water,	7 drams.

Dissolve.

Elixir Chloral and Bromide Comp.

Chloral Hydrate,	4 Troy ounces.
Bromide Potassium,	4 Troy ounces.
Ext. Cannabis Indica,	16 grains.
Extract Hyocyamus,	16 grains.
Alcohol,	2 drams.
Magnesia,	2 drams.
Glycerine,	2 fluid ounces.

Boiling water, q. s. to make 1 pint.

Instead of the prepared flavoring, a solution of the oils used in making Elixirs may be employed, namely, Oil of Sweet Orange, Ceylon Cinnamon, Coriander, etc. The oils should be dissolved in a small portion of alcohol, and as much water added as possible without causing turbidity. The extract of Cannabis Indica will be more completely dissolved if added to the hot solution of the Chloral and Potassium Bromide, owing to the solvent properties of the Chloral. The addition of glycerine may be unnecessary, unless it serves to render the preparation more agreeable.

Brandreth's Pills.

Ext. Colocyth,	20 grains.
Aloes Socotrine:	120 "
Gamboge,	60 "
Castile Soap,	30 "
Oil Peppermint,	2 drops.
Oil Cinnamon,	1 drop.
Powdered Acacia and Alcohol,	aa q. s.

Ut. fl. pil. No. 80. Dose 1 to 3.

Elixir Rhubarb and Magnesia.

Fluid Ext. of Rhubarb,	1½ ounces.
Fluid Ext. of Licorice,	1 drachms.
Magnesia Carbonate,	1 ounce.
Acetic Acid,	4½ “
Simple Elixir,	8 “
Water sufficient to make	16 fl. ounces.

Dissolve the magnesia carb; in the acetic acid and 1 oz. water; and this gradually to the fluid extract previously mixed with the elixir and filter through phosphate of lime or magnesia.

Baking Powder.

Tartaric Acid,	15 ounces.
Sodium Bicarbonate,	16 “
Starch,	16 “
Ammonia Carbonate,	2 “

Powder the articles separately with the exception of common carb, and dry each thoroughly, then rub through a fine sieve until a uniform mixture is obtained the ammonium carb. being reduced to a fine powder immediately before adding. The ammonia may be left out, but bread is more wholesome with it.

Catarrh Snuff.

Cocaine Hydrochlorate,	2 grains.
Bismuth Subnitrate,	1½ drachm.
Bisulphate of Quinine,	6 grains.
Powdered Orris Root,	½ drachm.

Make an impalpable powder and use three times a day.

Glycerine Cream.

Melt together

Spermaceti,	6 ounces.
White Wax,	1 ounce.
Sweet Almond Oil,	1 pound.

Remove from fire and stir in pieces of glycerine, about 4 ounces, and when congealing perfume with Attar of Rose, 20 drops.

To Clean Marble Soda Water Apparatus Slab.

Mix a few pieces of freshly burnt lime with sufficient solution of lye or caustic potash to make a mixture of syrupy consistence. Apply this mixture, to which may be added some powdered pumice stone, with a spongy brush over the surface and let it remain for a day. This coating is then removed and the marble surface washed with water, and afterwards polished with a piece of flannel saturated with oil. To remove oil or grease stains, a paste made of Fuller's earth or pipe clay, should be used in the same way, the spots first being well moistened with benzine. For rust stains, Oxalic Acid and a little butter of Antimony are said to be effective.

Florida Water.

Oil Lavender and Bergamot of each	4 fl. ozs.
“ Neroli,	2 drams.
“ Orange,	4 “
“ Cloves,	1 “
Pure Musk,	4 grains.
Cologne Spirit, 96°,	1 gal.

Macerate fifteen days and filter through paper.

Solution of Pepsin.

Sacch. Pepsin, U. S. P.,	1 oz. 180 grs.
Water,	18½ fl. ounces.
Hydrochloric Acid,	180 grains.
Mix, and after 24 hours, filter.	

Erasmus Wilson's Hair Wash.

Eau de Cologne,	8 ounces.
Tincture of Cantharides,	1 “
English Oil Rosemary,	} each. ½ drachm.
English Oil Lavender,	
Mix. It is improved by the addition of ½ drachm	
of Oil Origanum.	

Fine Aromontic Vinegar.

Glacial Acetic Acid,	1 lb. Avoir.
Rectified Spirit	2 ounces.
Camphor, crushed,	2½ “
Oil of Cloves,	1½ drachms.
Oil of Rosemary,	1 drachm.
Oil of Bergamot,	} each ½ drachm.
Oil of Cinnamon,	
Oil of Lavender,	
Oil of Pimento,	
Oil of Neroli,	

Mix. Agitate until the whole of the Camphor is dissolved.

Himrod's Asthma Cure.

Pulv. Lobelia,	2 ounces.
“ Stramonium,	2 “
“ Nitrate of Potash,	2 “
“ Black Tea,	2 “

Mix and sift well.

Almond Paste.

Reduce blanched almonds to a very smooth paste by patiently pounding them in a mortar, adding gradually, towards the end, a little rose water or orange flavor water with a few drops of Attar of Roses, or Neroli, or a little Eau de Cologne. Lastly, put the paste into covered porcelain pots or jars.

Bitter Almond Paste.

Take equal parts of bitter Almonds and sweet Almonds and rose water, a sufficient quantity. No scent need be added.

Cold Cream.

Take 1 ounce, Avoirdupois, each, pure white wax and spermaceti, and $\frac{1}{4}$ imperial pint of Oil of Almonds, melt, pour the mixture into a marble or wedgewood mortar which has been heated by being immersed for some time in boiling water, add very gradually of rose water, 4 fluid ounces, and assiduously stir the mixture until an emulsion is formed, and afterwards until the whole is very nearly cold. Lastly put it into porcelain or earthenware pots for use or sale.

Morfits Hair Tonic.

Scald Black Tea,	2 ounces.
Boiling Water,	1 gallon.
Strain and add Glycerine,	3 ounces.
Tincture of Cantharides,	$\frac{1}{2}$ ounce.
Bay Rum,	2 pints.
Mix and perfume to suit.	

Parisian Wash To Darken The Hair.

Green Sulphate of Iron,	20 grains.
Distilled Verdigris,	6 “
Good White Wine,	½ pint.
Perfume with Eau de Cologne.	

Mix.

Wash For Restoring Hair.

Mix half an ounce of Vinegar of Cantharides with 1 ounce of Eau de Cologne and one ounce Rose Water, or half ounce Tincture of Cantharides, two ounces Eau de Cologne, half a drachm Oil of Nutmeg and ten drops Oil of Lavender.

Walnut Hair Dye.

The simplest form is expressed juice of the bark or shell of green walnuts. This is the Venerable Hair Dye of the Ancient. To preserve this juice a little rectified spirit is commonly added to it with a few bruised cloves and the whole digested together with occasional agitation for a week or two, when the clear portion is decanted and if necessary filtered. Sometimes a little common salt is added with the same intention. It should be kept in a cool place.

Blonde or Flaxen Hair Dye.

Mix in 10 ounces of Distilled Water, one ounce Acetate of Iron. One ounce of Nitrate Silver and two ounces of Nitrate of Bismuth. Moisten the hair with this mixture, and after an hour touch it with a mixture of equal parts of Sulphide of Potass. and distilled water.

Blonde Hair Dye.

Another method is by moistening the hair with a mixture of two ounces Protochloride of Tin, and three ounces Hydrated Lime. After an hour use the potassium solution as in last formula.

Gold and Yellow Hair Dye.

A solution of Bichloride of Tin sufficiently diluted, followed by a mordant of Hydrosulphuret of Ammonia—gives a rich golden tint to a very light hair and a golden brown to a darker hair, owing to the formation of bisulphurate of tin.

An Excellent Dentifrice.

Precipitated Chalk,	1 lb.
Powdered Borax,	$\frac{1}{2}$ "
Powdered Myrrh,	4 ounces.
Powdered Orris,	4 "

Mix and sift through fine bolting cloth.

Freckle Balsam.

To the balsam of honey, prepared carefully, add pure citric acid, 3 drachms.

Morfits Dentifrice.

Powdered Willow Charcoal,	4 ounces.
Cinchona Bark,	1 lb.
Sugar Milk,	1 "
Old transparent soap in powder,	4 ounces.

Mix and sift through fine bolting cloth and perfume with Attar of Orange Flower, 1 ounce.

Violet Tooth Powder.

Precipitated Chalk,	6 ounces.
Cuttle Fish-bone,	3 “
Rose Pink,	2½ “
Orris Root,	1½ “
Essence of Violets,	½ drachm.
Indigo to strike a Violet tint,	q. s.
Mix. This is a great dentifrice among ladies.	

Areca Nut Charcoal.

This Charcoal is very scarce but when it can be procured is a most excellent preservative for the teeth, keeping them both sound and white.

Areca Nut Tooth Powder.

Areca Nut Charcoal,	5 ounces,
Cuttle Fish bone,	2 “
Areca Nut, raw,	1 ounce.

Mix. About one-half drachm each of cloves and cassia are usually added, but it is better without any such addition.

Syrup Trifolium Comp.

Fl. Ext. Red Clover,	1 fl. ounce.
Fl. Ext. Berberis Aginfolium,	½ “ “
Fl. Ext. Cascara Amargo,	½ “ “
Fl. Ext. Phytolacca,	½ “ “
Fl. Ext. Lappa,	½ “ “
Fl. Ext. Stillingia,	½ “ “
Fl. Ext. Xanthroxylum berries,	1 drachm.
Potassium Iodide,	2 “
Syrup q. s. to make	16 fl. ounces.

To Filter Vegetable Infusions.

In many instances vegetable infusions and decoctions may be clarified by defecation and decantation of the clear liquid. A convenient method of straining, when that is necessary, is by securing the corners of a square piece of flannel to a frame, which can be laid over the mouth of a pan; or by laying the flannel across the mouth of a coarse hair-sieve. Concentrated infusions and decoctions, being usually weak tinctures, may be filtered as tinctures. Viscid vegetable solutions may be clarified, or may be made to filter rapidly by the addition of acetic, sulphuric, or other strong acids.

To Filter Corrosive Liquids.

Strong acids, etc., are filtered through powdered glass or siliceous sand, supported on pebbles in the throat of a glass funnel, or through asbestos placed in the same manner.

To Filter Precipitates.

When filtration is employed to separate precipitate matter from the solution in which it is suspended, the filtering medium should be such that the powder may be easily reclaimed from it with as little loss as possible. Linen or smooth bibulous paper are the best for this purpose. A camel-hair pencil should be used, if needed, in preference to a knife, to remove adhering powder from a filter, and the precipitate should be first washed down the sides of the filter by a small stream of water, so as to collect the most of it to one spot at the bottom.

The first runnings in filtration should always be returned to the filter.

Sugar-Coated Pills.

This is an operation which cannot very well be performed in the pharmacy, for the reason that it requires (1) apparatus which can only be operated upon a manufacturing scale, and (2) that skill, which only experience in constant manipulations gives.

We will, however, give the essentials of the operation as adapted to the wants of a retail pharmacist. The pills which must be well made, round and firm, after being carefully freed from adhering powder, are placed in a shallow vessel or pan covered with a hot mixture, consisting of two pints of heavy syrup and two pounds of starch. The pan is kept revolving over a fire (on the large scale pans revolving by steam power and heated by steam coil are employed), and the pills are kept in constant motion, so as not to stick together, the hot mixture in the meanwhile being constantly applied until the pills are uniformly covered with a thin white coating. Great care must be exercised that the heat applied be not so great as to cause the pills to lose their shape, and at the same time sufficient so that the mixture will not be too long in drying. The pills are now placed in a cold pan, and cold syrup of greater density applied until the pills are perfectly covered, and are smooth and white, no heat being applied. This is an outline of the process most successfully employed, but it must be varied with the peculiar character of the pill, quantity operated upon, apparatus employed, and last, but not least, the skill of the operator.

Fine Bay Rum Recipe.

Proof spirit (deod.)	1 gal.
Finest Oil Bay,	2 drachms.
Rum Ether,	1 oz.
Crushed Card. seeds,	1 "
Acetic Ether,	$\frac{1}{2}$ drachm.
Oil Pimento,	$\frac{1}{2}$ "

Mix, and let stand two weeks, then filter through magnesia.

Rum ether is one of the compound ethers used in compounding liquor, etc. By increasing the quantity of acetic ether to one-half fluid ounce the rum ether may be dispensed with or it may be obtained from wholesale dealers.

Bunsen' Method of Rapid Filtration.

A great deal of time is frequently lost in washing precipitates, by having to wait for the liquid to pass through a filter. Bunsen's improvement consists in fixing the filtering funnel air-tight, by means of a perforated cork in the neck of a bottle which has an opening connected with the receiver of an air-pump. By exhausting the air in the bottle, the liquid will run faster through the filter in proportion to the diminution of the pressure in the bottle. Comparative experiments, some made according to the old, and others according to the new method, showing that the filtration, washing, and drying of a precipitate, which took 7 hours by the old plan, could be performed, by filtration into an exhausted bottle, in 13 minutes.

Aromatic Vinegar.

This is a compound of strong acetic acid with certain powerful essential oils. To produce the finer qualities of Aromatic Vinegar, glacial acetic acid must alone be employed.

Aromatic Vinegar is used as a pungent and refreshing nasal stimulant in langour, faintness, nervous headaches, dimness of sight, etc. For this purpose it is generally dropped on a small piece of sponge placed in a stoppered bottle or a venaigrette, which is only smelt at. It forms a useful caustic for warts and corns. As it is highly corrosive it should be kept from contact with the skin and clothes.

Lemonade Wine.

Tartaric Acid,	grammes	5
Alcohol,	"	25
Syrup of Orange Flowers,	"	50
Sherry Wine,	"	250
Distilled Water,	"	675

Mix the liquids, dissolve the tartaric acid, filter into 3 twelve-ounce bottles, to each of which add 30 grains of bicarbonate of soda, cork quickly and secure the cork with a string before shaking. The spirit can be substituted by cognac, if a finer preparation is wanted.

Fluid for Marking Ivory.

Nitrate of Silver,	2 parts.
Nitric Acid,	1 "
Water,	7 "
Mix.	

Tasteless Syrup, Iodide of Iron.

Iodine,	Grains, 378.9
Iron (card teeth)	" 90
Citric acid,	" 408
Potassium Carbonate C. P.,	" 475
Distilled Water, q. s.	
Simple syrup, q. s. to make 26 fl. ounces.	

Weigh accurately 256.6 grains Iodine and place in a flask of four ounces capacity, add the iron and half an ounce of distilled water, cover the flask with a piece of glass and agitate occasionally until reaction has ceased and the mixture has acquired a green color and lost the smell of Iodine. Filter the solution rapidly through a small funnel from the undissolved iron, and rinse the latter with same. To this liquid which is a solution of ferrous iodide obtained by the same process as the official in the U. S. P., add the remainder of the Iodine 126.3 and dissolve; it forms a ruby red solution. Dissolve 406 grains citric acid in one and a half ounces distilled water at 212° F, without removing from the source of heat, add the potassium carbonate gradually until exact neutralization, avoid excess. In case of excess add sufficient citric acid to make the solution neutral to test paper. Now pour as much of this solution of potassium citrate while hot in the iron and iodine solution, as will change the color of the latter to a bright apple green, then add sufficient simple syrup to make the measure 26 fluid ounces and mix thoroughly. The furnished syrup should be preserved in small well filled bottles. To obtain the best results in this preparation great care must be exercised in the weighing, as well as throughout the process.

Lemonade Bonbons.

White Sugar,	grammes	800
Bicarbonate of Soda,	"	100
Tartaric Acid,	"	100
Alcohol,	"	200
Oil of lemon,	minims	5

Rub the solids to a fine powder, to which add the alcohol and oil of lemon; transfer the soft moist mass to common chocolate moulds of the capacity of 20 grammes which have previously been oiled with coca butter; the forms are then transferred to a drying closet and quickly dried. The dried cakes are easily removed from the moulds and preserved in waxed paper, one of which when dissolved in a glass of water, furnishes an agreeable lemonade.

The manufacture of bonbons from various fruit ethers is to be deprecated, in place of which might be recommended for an orange flower flavor, 2 drops of oil of neroli for the above quantity of ingredients; for an apple flavor, 5 drops of oil of sweet orange; for rose, 2 drops of oil of rose, and for raspberry-lemonade bonbons, 5 grains of essence of raspberry (Helfenberg's) may be employed. The red coloring for the rose and raspberry may be obtained by the addition of small quantities of a tincture made of 20 grammes of malva flowers with five grammes of tartaric acid and 100 grammes of alcohol.

To Restore Yellow Ivory to its Original Whiteness.

A thin lime paste is prepared in a pot and heated over a stove. The Ivory is placed in this and left until white, when it is taken out dried and polished.

Lemonade Drops.

Citric Acid,	grammes	50
Powdered Gum Arabic,	"	100
White Sugar,	"	850
Oil of lemons,	minims	5
Diluted Alcohol,	q. s.	

The solids are powdered and mixed, to which add the oil and sufficient dilute alcohol to form a plastic mass capable of being rolled out into 1 gramme lozenges. The same variety and quantity of flavors may be used as in the making of lemon bonbons. The above makes a very salable article.

Lemonade Powder.

Tartaric Acid,	grammes	25
White Sugar,	"	975
Oil of lemon,	drops	5

Add the oil of lemon to the mixed powders by trituration. To make variously flavored powders the same flavor may be used and in the same quantity as in the preparation of the different bonbons. To make the raspberry-lemon powder, the sugar is first triturated with 5 grammes of raspberry essence and sufficient quantity of tincture of malva to color, then dried in the air and the acid afterward added.

To Test the Purity of Castor Oil.

Castor Oil is frequently adulterated with Rape oil, but this may be detected by its not dissolving in strong Alcohol, and also by its less density. Pure Castor Oil is soluble in an equal weight of Alcohol specific gravity 0.820.

To Filter Vegetable Juices.

These should be allowed to deposit their feculous matter before filtration. The supernatant liquid will often be found quite clear; when this is not the case, filtration will be necessary through coarse filtering paper. Some vegetable juices can be made clear simply by heating them to 180° to 200° Fahr., by which their albumen becomes coagulated.

Others admit of clarification in the same manner as syrups. Many of these, again, such as hemlock, henbane, aconite, etc., are greatly injured by heat, and must be filtered or decanted after repose.

Magic Tooth Paste.

White Marble dust,	2 ounces.
Pumice stone in fine powder.	1½ “
Rose, Pink,	½ ounce.
Attar of Roses,	8 drops.

Mix with sufficient honey to make a paste. This is a very fine paste and can be relied on for whitening the teeth.

Bancroft's Process for Refining Lubricating Oils.

Mr. Bancroft's Process for refining common oils, such as olive oil, lard oil, etc., for lubricating purposes, is to agitate them with from 3½ to 8 per cent. caustic soda lye of 1.2 specific gravity. If, on trial of a small quantity, the lye be found to settle clear at the bottom, enough has been added. The oil is allowed to rest for 24 hours, for the soapy matter to subside; the supernatant oil is then filtered. Another plan of purifying oils is to agitate them with a strong solution of common salt.

Strength of Some Preparations, U. S. P.

In answer to the charge that the strength of many preparations has been augmented, in U. S. P. of '80, we introduce the following table to show that such changes are really few in number and those changes really unimportant, while a second schedule exhibits all the important changes in the opposite direction.

Strength has been increased in—

	Dose of the Old.	Dose of the New.
Solution of Arsenious Acid.....	5 minims.	$4\frac{1}{6}$ minims.
Fowler's Solution	3 "	$4\frac{1}{2}$ "
Tincture of Opium	13 "	11 "
" Aloes.....	1 to 6 fl. drs.	$\frac{1}{2}$ to 2 fl. drs.
" Cantharides	10 minims.	7 minims.
" Capsicum.....	20 "	14 "
" Lobelia	40 '§	30 "

Strength has been decreased in—

	Dose of the Old.	Dose of the New.
Vinegar of Lobelia	40 minims.	50 minims.
" Opium	7 "	11 "
" Sanguinaria.....	15 "	20 "
" Squill	15 "	15 "
Tincture of Aconite	$2\frac{1}{2}$ "	3 "
" Cannabis Indica.....	10 "	17 "
" Nux Vomica.....	20 "	35 "
" Stramonium.....	10 "	13 "
" Vratrum Viride.....	5 "	$5\frac{1}{2}$ "
Wine of Opium.....	8 "	11 "

In all working formulas, the author says, the word parts may be understood to mean grains, or grams, or pennyweights, without changing the result.

To Detect the Adulteration of a Heavy Oil with a Light One.

The adulteration of a heavy oil with a light one may be detected by agitating the suspected sample with water, when in general, the two will separate and form distinct layers.

To Restore the Fragrance of Oil of Lemon.

There are several oils that, by absorption of oxygen from the air, will become camphorated, grow turbid, deposit a residue, generally called stearopten, and lose more or less of their flavor, instead of which they acquire the odor of turpentine. These oils that are free from oxygen are chiefly subject to these changes, and it is therefore necessary to keep them in full bottles, well stoppered, and in a cool place. When they have deteriorated in the way indicated, they may be improved, but can never be restored to their original quality. Many means have been proposed for this purpose, but the one now generally employed in France is to shake the oil with warm water several times, letting it settle, and draining it off by means of a syphon. It may lastly be filtered either through paper or linen.

Irish Moss Glycerine Jelly.

Mucilage Irish Moss N. F.,	fl. ozs. 4
Glycerine,	" 6
Hammamelis water,	" 4
Cologne water,	" 2
Sodium borate,	grs. 30

Dissolve the borate in the hammamelis water, mix the solution with 3 fl. ozs. Glycerine and with the Cologne, add this slowly to the mucilage, previously mixed with the balance of the glycerine. After standing a few hours strain the mixture. The hammamelis water may be substituted by water. The mucilage of Irish Moss is prepared by boiling 1 oz. of the Moss, previously washed with cold water, in two pints water, and straining.

To Deodorize Benzine.

Shake repeatedly with plumbate of soda and rectify, or, shake repeatedly with fresh portions of metallic quicksilver, let it stand for two days and rectify.

Churchill's Tincture Iodine.

Iodine,	grs. 75
Iodide Potassium,	" 15
Water,	fl. drs. 2
Alcohol,	" 6

Dissolve the potassium in the water, add the alcohol and the iodine and agitate until the latter is dissolved.

N. B.—The original formula directed alcohol of 75 per cent. By mixing officinal alcohol and water in the above proportions this percentage will be closely approximated.

Bromo Caffeine.

Bromide of Potassium,	200 parts.
Caffeine,	20 "
Bi-carb Soda,	600 "
Tartaric Acid,	540 "
Sugar, in very fine powder	440 "

Triturate the ingredients, previously well dried, to a fine uniform powder. If the compound is required in form of a granular powder, mix it with alcohol to a soft paste and rub this through a No. 20 sieve. Then dry it and reduce it to a coarse granular powder. One teaspoonful of the mixture is equal to about 10 grains of Bromide Potassium and 1 of Caffeine.

Elixir Iodide of Calcium.

Syrup Iodide of Iron,	4 fl. ounces.
Milk of Lime,	4 " "

Heat to boiling, when the iron will be precepi-
tated as hydrate. After standing, decant the clear
liquid and repeat this operation, washing the pre-
cipitate with water until 10 fluid ounces of the
mixed liquid are obtained. In the filtered greenish
solution of calcium iodide, dissolve,

Sugar,	4 ounces.
Then add Alcohol (deod.)	4 fl. ounces.
Oil of Orange,	1 drachm.

Finally filter through calcium phosphate adding
sufficient water through the filter to make 16 fl.
ounces. This elixir will contain about two grains
calcium iodide to one fluid drachm.

A New Chewing Gum.

Venice Turpentine,	100 parts.
Americanthus,	75 "
Yellow Wax,	50 "
Bals. Tolu,	10 "
Bals. Peru,	5 "

Melt together and add in fine powder.

Cinnamon (Chinese),	30 parts.
Chocolate,	50 "
Red Sandal Wood,	10 "
Galangal,	5 "
Ginger,	5 "
Cardamoms,	2½ "
Myrrh,	5 "

(Parts by weight.) Mix and roll out, when cool
enough, into sticks, or make into any suitable form.

Eno's Fruit Salt.

Rochelle Salt,	3 parts.
Turtanic Acid,	24 "
Bicarbonate Sod.,	30 "
Powdered Sugar,	80 "
Flavor with Ess. Lemon,	q. s.

Warner's Cordial.

This is an old familiar remedy in the East, and was officinal in the Pharmacopœia of 1870, under the term Tincture of Rhubarb and Senna. Take of in moderately coarse powder.

Rhubarb,	480 grains.
Senna,	120 "
Coriander,	60 "
Fennel,	60 "
Licorice,	30 "
Raisins deprived of seeds,	5 ounces.
Dilute Alcohol,	3 pints.

Macerate for seven days, express and filter.

Ransom's Hive Syrup.

Fl. Ext. Squill,	2 drachms.
Fl. Ext. Senna,	2 "
Soluble Essence Tolu,	2 "
Tartar Emetic,	4 grains.
White Sugar,	4 oz. av.
Water to make	4 fl. ounces.

It is readily prepared by rubbing the tartar emetic and sugar well together, adding the fluid extracts and essence of tolu and then enough water to make after short slight heating and straining 4 fl. ounces. Each fluid ounce of the syrup contains 1 gr. of tartar emetic

To Detannate Elixir Cinchona.

Calisaya Bark in mod. fine Powder,	10 ounces.
Hydrochloric Acid,	1 ounce.
Caustic Lime,	1½ ounces.
Alcohol,	q. s.
Oil of Orange,	2 drams
Oil of Cinnamon (Ceylon)	1 “
Precipitate Phosphate of Calcium,	Sufficient.
Sugar,	40 ounces.
Water a sufficient quantity,	

Exhaust the Conchona by boiling three successive times, using 40 ounces of water acidulated with one-third of the acid, and expressing strongly in each operation.

To the mixed liquids, while still hot, add under constant stirring the lime previously made into a smooth paste or milk by slacking with 10 oz. water. Drain, press and dry the precipitate, powder and digest it in hot alcohol, 24 ozs. Pour off the liquid and wash the precipitate with alcohol, 8 ozs: Repeat the operation until the alcoholic liquids when mixed measure 32 ounces. In this dissolve the oils. Dissolve the sugar in water 50 ozs., and pour this syrup into the alcoholic solution till a permanent turbidity appears, then reverse the operation under constant stirring, finally add the phosphate of calcium and filter through a well wetted filter, adding sufficient water to make 8 pints. This seems to be at first sight a somewhat complicated process, but the advantages it presents, far counterbalance any inconvenience resulting from its execution.

This Elixir is permanent and will not precipitate or dissolve when mixed with iron preparation. It is scarcely bitter in taste owing to the fact that the alkaloids are present in their natural combination as kinates, which renders the preparation more valuable medicinally while enhancing its qualities physically.

Cigar Flavoring.

Valerian,	4 ounces.
Orris Root,	4 “
Tonqua,	4 “
Vanilla,	2 drams.
Jamaica rum q. s. to make	8 pints.

Cement for Porcelain Letters on Glass.

Salicylate of Soda (water glass)	1 ounce.
Chalk in powder,	$\frac{1}{2}$ “
Mix and apply at once.	
Litharge,	1 ounce.
Glycerine q. s. to make a paste.	

Cream of Camphor.

Oil Almonds,	5 ounces.
Spermaceti,	1 “
White Wax,	1 “

Melt together at a moderate thin, gradually incorporate. Stir constantly until cool.

Syrup Dovers Powders.

Extract opium,	32 grains.
Extract Ipecac,	64 “
Sugar,	12 ounces.
Water q. s. to make	16 “

Dissolve the extracts in the water, and filter, to make 8 fluid ounces, In this dissolve the sugar without heat, strain and add water to make 16 fl. ounces. This preparation contains one-half grain each of Opium and Ipecac in each fluid drachm representing five grains of Dover's powder.

Silver Plating Powder.

Silver Chloride,	60 grains.
Potassium Bitartrate,	390 “
Sodium Chloride,	180 “

Mix. The powder is made into cream with water and the article to be plated is either covered with the paint by means of a brush or immersed in the mixtures for a short time, then, after being dried, it is rubbed off and the article polished with prepared chalk. Another formula is: Silver Nitrate, potassium, cyanide, chalk and water used same as above. Solution of Mercury are also used, but such plating oxidises in a short time.

Fire Hand Grenades.

The following formula for extinguishing compounds used in the Champion, etc., is composed of—

Sodium Hyposulphite,	ounces 4
Water Ammonia,	fl. “ 4
Water q. s. to make	fl. “ 16

Dissolve and keep the solution in a bottle hermetically sealed.

Lime Juice Cordial.

Glucose,	ounces 4
Syrup,	“ 16
Lime-juice,	“ 16
Water,	“ 28

Tincture of lemon peel, triple orange flower water of each enough to flavor.

Soluble Tincture Tolu.

Glycerine,	fl. ounces 12
Magnes Carb,	drom 2
Tolu,	Troy ounce 3
Alcohol,	fl. ounce 6
Water sufficient.	

Syrup of the Soluble Oxide Iron.

Solution Iron Chloride, U. S.,	10 ounces.
Ammonia Water, U.S.10 ,	12 ounces.
Sugar,	70 ounces.
Water,	Sufficient.

To the ammonia water, diluted with about twenty times its volume of water, add slowly, under constant stirring, the solution of iron chloride, previously mixed with five times its weight of distilled water. Let the mixture stand until the precipitate has subsided, draw off the clear liquid and wash the precipitate several times by decantation. Collect the precipitate and continue the washing with hot water until the washings cease to produce a precipitate after first being acetified with nitric acid, with argentic nitrate showing the absence of more than traces of chlorhydric acid or chloride of ammonia. After being drained, mix the precipitate with the sugar, transfer to a porcelain capsule, and add to the mixture one ounce of ammonia water; heat until the sugar is dissolved, and then continue the evaporation until all traces of ammonia have disappeared. Finally, add one ounce of orange flower water, strain the syrup, and add sufficient water through the strainer to make the weight of the product 110 ounces by weight. Mix the syrup thoroughly and preserve it in well-stoppered bottles.

Camphorated Acetic Acid.

Camphor Pulverized,	1 ounce.
Rectified Spirit,	1 fl. drachm.
Acetic Acid (strong),	10 fl. ounces.

Mix.

This is fragrant and refreshing, and used as an embrocation in rheumatism and neuralgia.

Essence of Camomile.

Essential Oil of Camomile,	1 ounce.
Alcohol,	1 pint.

Mix.

Concentrated Essence of Ginger.

Unbleached well-bruised Ginger,	4 ounces.
Alcohol,	1 pint.

Digest for two weeks, press and filter.

Tar Ointment.

Tar and Mutton Suet, equal parts, melt together and stir till cold.

NOTE.—This is an excellent remedy for scald head and ringworm.

Improved Styptic Colloid.

Collodion,	100 parts.
Carbolic Acid,	10 “
Tannin,	5 “
Benzoic Acid from the gum,	5 “

Mix the ingredients in above order until perfect solution is effected. This preparation has a brown color.

Snuff for Colds and Consumption.

Virginia Leaf (stemmed),	10 ounces.
Ohio " "	3 "
Havana " "	3 "
Bells of Lily of the Valley,	$\frac{1}{2}$ ounce.
Mignonette Flowers,	$\frac{1}{2}$ "

Triturate together slowly in a rosewood mortar.

Salts for Freezing Mixtures.

Chlorate of Sodium	6 parts.
" " Calcium,	20 "
" " Magnesia,	20 "
" " Potassium,	13 "
Water,	41 "
Mix.	

Dilute Hydrobromic Acid.

Bromide Potassium,	120 grains.
Crystallized Tartaric Acid,	153 "
Water,	1 fl. ounce.

Mix. After solution set the mixture aside, in cold water, for twelve hours, to enable the precipitate to form; then decant and keep for use.

Chloralum.

Powdered Alum,	10 Troy ounces.
Solution Chloride Calcium,	16 fl. ounces.
Water q. s. to complete,	100 " "

Dissolve the alum in about four-fifths of the water by the aid of heat; add the solution of the Chloride of Calcium; filter, and add enough water through the filter to complete the quantity directed.

Alkinson's Bear Grease.

Lard,	12 pounds.
Oil of Almonds,	10 "
" " Rose, (French),	8 ounces.
" " Orange,	8 "
Cassia Pomatum (French),	2 pounds.
Oil of Tuberose,	8 ounces.
" " Jasmine,	8 "
Essential Oil of Bergamot,	4 "
" " " Cloves,	2 "

Mix.

The French oils above mentioned are not the essential oils, but the products obtained by the maceration technically called enfleurage.

Artificial Carlsbad Salt.

Chloride of Sodium,	100 parts.
Bicarb. Soda,	300 "
Sulphate of Soda (exsic),	1000 "

Mix thoroughly, and keep in a well closed bottle.

Syrup of Tar.

Tar,	1 ounce.
Alcohol, sp. gr. 0.820,	8 fl. ounces.
Phosphate of Lime, (precip.),	1½ ounces.
Sugar,	24 ounces.
Water, sufficient.	

Simple Syrup, q. s. to make 2 pints.

Dissolve the Tar in the Alcohol; triturate the solution with the Phosphate of Lime, adding gradually 1 pint of Water; filter, and dissolve the sugar in the filtrate without heat. Finally, add enough syrup to complete two pints.

Boker's Swedish Bitter Tonic Tea.

Star Anise, crushed,	20 parts.
Quassia, rasped,	40 “
Blessed Thistle, cut,	40 “

Mix. Prepare as ordinary tea.

Marshmallow Syrup.

Marshmallow Root, cut,	50 parts.
Cold Water,	500 “
Sugar,	750 “
Orange Flower Water,	30 “
Simple Syrup, q. s. to make	1300 “

Rinse the roots lightly with water; then macerate it a few hours with the cold water; strain without pressure, adding enough water through the strainer to make the strained infusion equal to the original measure; set it aside to settle; decant the clear liquid, and in it dissolve the sugar with the aid of heat. After straining the syrup, and when it is cool, add to it the orange flower water, and enough simple syrup to make the finished preparation weigh 1300 parts.

Swedish Blood Purifying Tea.

Licorice Root,	75 parts.
Saponaria,	175 “
Juniper Root,	300 “
Guaiac Wood, rasped,	450 “

Mix.

Oregon Kidney Tea.

Short Buchu Leaves,	2 ounces.
Uva Ursi,	2 “
Juniper Berries,	1 ounce.

Mix and grind to a coarse powder.

Cold Cream without Oil.

Quince Seed Mucilage,	10 drachms.
Almond Oil Soap,	15 grains.
Stearic Acid,	2½ drachms.
Glycerine,	½ drachm.

Rub the Stearic Acid and the Soap together in a warm mortar; add gradually to the mixture the mucilage, so as to form an emulsion; and lastly, the glycerine. The cream may now be perfumed with Otto of Rose, or any suitable essential oil.

Cement for Leather.

Virgin Gutta Percha,	2 drachms.
Bisulphate of Carbon,	2 Troy ounces.

Dissolve.

This is the preparation used for invisible patches.

Silver Plating Liquid.

Cyanide Potassium,	2 ounces.
Nitrate of Silver,	1 ounce.
Distilled Water,	12 ounces.
Precipitated Chalk,	2 “

Dissolve the Silver in about 10 ounces of the Water, and the Cyanide in the remainder; then pour the two together as long as the precipitate is re-dissolved; and lastly, mix in the Chalk.

Egyptian Ointment.

Verdigris,	10 parts.
Calcined Alum,	1 part.
Strong Vinegar,	14 parts.
Purified Honey,	32 “

Mix. Very useful for Foul Ulcers.

New Seidlitz Powder.

Tartrate of Soda and Potash,	2 drachms.
Bicarbonate of Soda,	2 samples.
Dissolve in half tumbler of Water, and add:	
Powdered Tartaric Acid,	25 grains.
Muriate of Ammonia,	5 “
Also dissolve in half tumbler of Water.	

English Hop Bitters.

Orange Peel,	2 ounces.
Calamus Root,	1 ounce.
Burnt Saxifrage Root,	1 “
Hops,	$\frac{1}{2}$ “
Alcohol,	10 fl. ounces.
Water,	24 “ “
Sugar,	4 ounces.

Mix.

Common Nail Blacking.

Tincture of Iron,	1 ounce.
Extract of Logwood,	1 “
Powdered Nutgalls,	1 “
Alcohol,	1 pint.
Water,	1 “

Mix. This is used for the same purpose as the
Burnishing Ink.

Mosquito Fumigating Pastilles.

Charcoal,	1 pound.
Saltpeter,	2 ounces.
Carbolic Acid,	$1\frac{1}{2}$ “
Persian Insect Powder,	8 “
Tragacanth Mucilage,	Q. S.

Mix.

Jaborandi Hair Tonic.

Glycerine,	2 ounces.
Jaborandi Leaves,	4 drachms.
Cinchonia Bark,	1 ounce.
Alcohol,	2 ounces.
Bay Rum,	2 “
Rose Water,	10 “

Reduce the Jaborandi and Cinchonia to a moderate fine powder, and exhaust them by percolation with the Alcohol, Bay Rum and Water, mixed together. To the percolate add the Glycerine, and filter.

Wormwood Cordial.

Creeping Wormwood Leaves,	4 ounces.
Angelica Root,	2 “
Cinnamon,	2 drachms.
Oil of Wormwood,	½ ounce.
Oil of Anise,	30 drops.
Alcohol,	2½ gallons.
Simple Syrup,	4 pints.

Macerate the Herb, Root and Bark for two weeks in the Alcohol; press, filter, and add the Oils, and lastly the Syrup. The cordial is taken with a large quantity of water.

To Purify Turpentine.

However carefully the Oil of Turpentine may have been distilled, it always leaves, after evaporation, a disagreeable odor. This may be obviated by distillation over Tannin. Articles treated with the Oil of Turpentine that has been distilled in this way are heated to 150° Fahr., when they lose all trace of odor.

To Dissolve Iodine in Cod Liver Oil.

Triturate the Iodine with half its weight of Iodide of Potassium, and add gradually the Oil, so as to form a uniform mixture. After standing for a few days all the Iodide will be found at the bottom of the flask, leaving the Iodine in perfect solution, the oil having but little of its taste.

Cheap Lavender Water.

Essence of Bergamot,	3 ounces.
Tincture of Musk,	6 drachms.
Oil of Cloves,	1 drachm.
Oil of Lavender (English),	4 drachms.
Rose Water,	12 ounces.
Alcohol,	7½ pints.

Mix.

Cupric Test Pellets.

Sulphate Copper (ch. pure),	1 part.
Cryst. Tart. of Soda and Potassa,	5 parts.
Sodic Hydrate,	2 “

Mix thoroughly in a mortar. (The more labor spent on this the better the product.) The result will be a pasty mass, which can be transferred to a wide mouthed bottle and kept till wanted. To use it, take of the mass a piece about the size of a pea, put it in a test tube, and add about two fluid drachms of Water; boil till the mass is dissolved, and the solution has a uniform pale and rather dirty blue color; then add two or three drops of the suspected urine, and boil again for a moment. If sugar be present the usual reaction will be manifest.

Chloroform Ointment.

Chloroform, 1 drachm.

Spermaceti Ointment, 1 ounce.

Mix. This should be kept in a wide mouth stoppered vial. Useful for Neuralgic Pains.

Audhoul's Aloes Pills.

Cape Aloes, 30 grains.

Cream of Tartar, 30 "

Almond Oil Soap, 60 "

Gum Arabic, 30 "

Simple Syrup, 5 drops.

Make a mass to be divided into 100 pills.

Dose.—One, two, or more, in two or three doses, during meals.

To find the percentage of Ether in a mixture of Ether and Alcohol.

By ascertaining the specific gravity at 60° Fahr. of a mixture of Ether and Alcohol, the following table will give the percentage of absolute Ether contained in the mixture:

Spec. Gravity.	Per Cent.	Spec. Gravity.	Per Cent.
.7198	100	.7673	65
.7246	95	.7636	60
.7293	90	.7701	55
.7343	85	.7772	50
.7397	80	.7840	45
.7455	75	.7880	40
.7514	70		

Zinc Ointment.

Oxide Zinc,	1 ounce.
Lard,	6 ounces.

Mix. This is a useful application for Burns, Excoriations and Skin Diseases, attended by discharges.

Aconitine Ointment.

Aconitine,	16 grains.
Alcohol,	12 drops.
Olive Oil,	$\frac{1}{2}$ drachm.
Lard,	1 ounce.

Rub the Aconitine with the Spirit, and add the Oil by drops, and when thoroughly mixed pour in the lard, rendered nearly liquid by heat, and stir well until cold. Useful in Rheumatic and Neuralgic affections.

Hair Curling Fluid.

Carbonate of Potassa,	2 drachms.
Water of Ammonia,	1 drachm.
Glycerine,	4 drachms.
Alcohol,	12 “
Rose Water,	18 fl. ounces.
Mix and filter.	

Valpeau's Remedy for Diarrhea and Cholera Morbus.

Tincture Opium,	1 ounce.
Paregoric Elixir,	1 “
Tincture Rhubarb,	1 “
Essence of Peppermint,	10 drachms.
Tincture Capsicum,	6 “

Mix. Dose for an adult, a teaspoonful in a wine-glass of sweetened Water.

To deodorize Petroleum.

Agitate the petroleum with a solution of Plumbate of Soda. It removes all offensive Sulphur compounds, and is applicable to Benzine as well as to illuminating oils.

Confection of Senna.

This preparation, when properly made, is an excellent laxative for habitual constipation, superior, perhaps, to any other remedy. It is not in such general use among physicians as it is entitled to be.

Take of Tamarinds,	20 parts.
Figs, Bruised,	20 “
Prunes, Sliced,	15 “
Fluid Ext. of Senna,	10 “
Fluid Ext. of Ginger,	1 part.
Sugar,	30 parts.
Water, a sufficient quantity.	

Digest in a close vessel, by means of a water bath, the Tamarinds, Prunes and Figs in 10 parts of Water, for three hours; separate the coarser portions with the hands, and press the pulpy mass by rubbing first through a coarse sieve and then through a very fine one. Mix the residue with four parts of Water, and, having digested the mixture for a short time, treat it as before, and add the product to the pulpy liquid first obtained; evaporate to a syrupy consistence over a water bath; add the Sugar, and continue the heat for 20 minutes, or until the Sugar is dissolved; then remove from the bath, add the Fluid Extracts of Senna and Ginger, and mix thoroughly.

To Disguise Turpentine.

Oil Turpentine,	2 drachms.
Sulphuric Ether,	1 drachm.
Mix by shaking violently, and add	
Syrup of Orange Flowers,	1 ounce.
Water,	4 ounces.

Alcohol Strength of Bitters.

Hostetter's,	43.20
Baker's,	40.57
Drake's Plantation Bitters,	38.24
Wild Cherry,	35.89
Standard Wine Bitters,	25.49
Peruvian Bitters,	22.40
Sherry Wine Bitters,	22.40
California Wine Bitters,	18.20
Luther's Temperance Bitters,	16.68
Richardson's,	59.14
Warren's,	29.60
Puritan Bitters,	25.50
Hoffland's German Bitters,	20.85
Vinegar Bitters,	7.50
Pierce's Bitters,	6.36

Dandruff Lotion.

Tincture of Cinchona,	1 ounce.
Solution of Potassa,	2 drachms.
Salt of Tartar,	1 drachm.
Cologne Water,	1 ounce.
Water sufficient to make 8 ounces.	
Mix: Apply to the head twice or three times a week.	

Remedy for Blind Piles.

Extract of Belladonna,	5 grains.
Iodoform,	1 grain.
Acetate of Lead,	1 “
Vaseline,	75 grains.

Mix. Apply three or four times a day, after bathing the swelling with warm water.

Crab Apple Salts.

Sulphate of Magnesia, Crystallized,	88.16
Sulphate of Soda,	2.12
Peroxide of Iron,	.12
Water combined with these two,	1.53
Sulphate of Potassa,	4.79
Sulphate of Lime,	2.72
Carbonate of Lime,	.23
Silica and Phos. Acid,	.33
	<hr/>
	100.00

Artificial Quinine.

There have been rumors for some time that artificial Quinine could be made,—that is, Quinine without Alcohol. There can be no doubt of this. It is called the Dry Process, and is substantially as follows: The Alkaloid is extracted by means of Fusel Oil. The powdered Bark is mixed thoroughly with Milk of Lime, and when dry exhausted with fresh Fusel Oil, which dissolves out all the Alkaloids. On treating the solution with dilute Sulphuric Acid, the Alkaloidal Sulphates being insoluble in Fusel Oil, are transferred to the watery menstruum. At no stage of the process is Alcohol needed.

Pepsine Lozenges.

Pure Pepsine,	4 drachms.
Muriatic Acid,	45 grains.
Distilled Water,	15 “
Glycerine,	1½ drachms.
Tragacanth Powder,	2 “
Red Saunders,	8 grains.

Mix, and divide into fifty lozenges. Dose, five per day, to be taken with some water.

Pills for Dyspepsia.

Diastase,	10 grains.
Pepsine,	50 “
Extract of Gentian,	50 “
Tartaric Acid,	50 “
Powdered Rhubarb,	50 “
Gentian,	Sufficient.

Divide into three grain pills. Dose: Two or three shortly before meals.

Metallic Writing Pencils.

These pencils consist of an alloy of Lead, Bismuth and Quicksilver. The ingredients vary according to the desired hardness of the pencil. The ordinary proportions are: Lead, 70; Bismuth, 90; and Quicksilver, 8 parts, by weight. A large portion of Lead and Quicksilver makes the pencils softer, and produces darker marks in writing. The Lead and Bismuth are melted together and are allowed somewhat to cool, when the Quicksilver is added, and the composition cast in proper moulds.

Pills—Camphor and Opium.

Camphor,	24 grains.
Powdered Opium,	6 “
Alcohol,	6 drops.
Confection of Roses.	

Mix. To make twelve pills, each of which will contain two grains of Opium and half a grain of Camphor.

Hardy's Ointment.

This ointment, used in France to prevent falling off of the hair, is given as follows:

Take Beef Fat,	17 drachms.
Castor Oil,	6 “
Gallic Acid,	30 grains.
Vanilline,	q. s. to flavor.

Mix.

Tincture Ferri Citro Chloride.

Solution Chloride Iron, (U. S.)	4 fl. ounces.
Citric Acid,	2100 grains.
Bicarbonate of Soda,	2270 “
Alcohol,	4 fl. ounces.
Water, q. s. to make	16 “ “

Dissolve the Citric Acid in 4 fluid ounces of Water, heat the solution to the boiling point, and gradually add the Bicarbonate of Sodium. When effervescence has ceased, add the solution of the Chloride of Iron, and cool the mixture. Then add enough water to make it measure 12 fluid ounces, and finally add the Alcohol.

Each fluid drachm contains about $7\frac{1}{2}$ grains of dry Ferric Chloride.

Tonico Oriental.

Stearns' New Idea gives the following approximation formula for this preparation, made by Lau-
man & Kemp, New York:

Castor Oil,	3 fl. drachms.
Glycerine,	3 " "
Fluid Ext. Orris Root,	2 " "

Alcohol, q. s. to make a clear solution, say, to
four fluid ounces.

Compound Camphor Cream.

White Castile Soap,	$\frac{1}{2}$ ounce.
Boiling Water, q. s. to dissolve it.	
Ammonia Carbonate,	4 drachms.
Camphor,	4 "
Tinct. of Opium,	4 "
Oil of Origanum,	2 "
Oil of Turpentine,	2 "
Water, q. s. to complete	2 pints.

Dissolve the Castile Soap in 4 or 5 times its weight of boiling water, added gradually. Then add the Ammonium Carbonate and the Camphor, dissolved in the essential oils. Mix well, and make an emulsion. Lastly add the Tinct. of Opium and enough water to make 2 pints.

Asthma Mixture.

Tincture Lobelia,	5 fl. ounces.
Ammonia Iodide,	2 drachms.
Ammonia Bromide,	3 "
Syrup Tolu,	3 ounces.
Mix. Teaspoonful every 1, 2 or 3 hours.	

Egyptiacum Salve.

Verdigris, 1½ ounces.

Alum, 1½ “

Sulphate of Copper, ½ ounce.

Corrosive Sublimate, ⅛ “

All in powder, and boil over a slow fire:

Vinegar, 2½ ounces.

Honey, ½ pound.

Boil until of proper consistency, and stir well before using.

Mistura Ammonii Carbonatis.

Ammonii Carbon, 30 grains.

Syrup Senega, 4 fl. drachms.

“ Ipecac, 2 “ “

“ Tolu, 4 “ “

Ext. Glycyrrhizae, ½ drachm.

Aqua Cinnamonii, q. s. ad., 4 ounces.

Mix. Dose—A teaspoonful for children.

Pills of Yellow Sandal Wood.

Oil of Yellow Sandal Wood, ½ ounce.

Yellow Wax, ½ “

Melt the wax in a capsule, and weigh into it the Oil of Sandal Wood; mix, and stir until cold; then roll out the mass, and divide into eighty pills, and rotate in Marsh Mallow powder. Each pill contains three grains. In the same manner may be made pills of Cubebs, Pepper and Fleabane.

Acetum Cantharides.

Cantharides in powder,	100 grams.
Glacial Acetic Acid,	100 “
Acetic Acid q. s. to make	1 liter.

Mix six hundred fluid grams of acetic acid with the glacial acetic acid and digest the cantharides in this mixture for two hours at a temperature of 95 degrees C. Then transfer the ingredients, after they have cooled, to a percolator, and when the liquid ceases to pass pour three hundred fluid grams of acetic acid over the residue in the percolator. As soon as the percolation is complete, subject the contents of the percolator to expression. Filter the product. Mix the liquids and add sufficient acetic acid to make one thousand fluid grams.

N. B. To convert grams into drachms divide by 4.

Acetum Aromaticum.—Aromatic Vinegar.

Spts. of Rosemary,	10 fl. grams.
“ Lavendar,	10 “
“ Juniper,	10 “
“ Lemon,	10 “
“ Peppermint,	10 “
“ Cloves,	100 “
Glacial Acetic Acid,	150 “
Alcohol,	200 “
Water to make,	1 liter.

Mix and let stand five days. Then filter, using about two hundred and fifty fluid grams paper pulp to aid in rendering the vinegar quite limpid.

Acetum Camphoratum.—Camphor Vinegar.

Camphor,	25 grams.
Glacial Acetic Acid,	25 “
Dilute Acetic Acid to make	1 liter.

Triturate the camphor with some glacial acetic Acid until rendered to a fine powder; then add, during continued trituration, the remainder of the glacial acetic acid; also the dilute. Finally add the dilute; set aside a few days, shaking the mixture occasionally. Then filter.

Acidum Aceticum Aromaticum.

[Ph. G.]

Volatile Oil of Cloves,	170 grams.
“ “ Lavender,	120 “
“ “ Lemon,	120 “
“ “ Bergamot,	60 “
“ “ Thyme,	60 “
“ “ Cinnamon,	20 “
Glacial Acetic Acid,	450 “

Dissolve.

Acetum Rubus Idæus.—Vinegar of Raspberries.

Raspberries,	3000 grams.
Pure Wine Vinegar,	2000 “

Macerate ten days; strain without expression, and filter.

Fruit Vinegars in general are made in the same way.

Acetum Digitalis.—Vinegar of Digitalis.

Digitalis Leaves,	100 grams.
Diluted Acetic Acid, to make	1 liter.

Macerate for five days; express and filter.

Acetum Opium Crocatum.—Black Drops.

Opium,	150 grams.
Nutmeg,	30 “
Saffron,	10 “
Sugar,	200 “
Dilute Acetic Acid,	Sufficient.
Make the whole measure	1 liter.

Macerate the opium, nutmeg and saffron in the form of a powder, with enough of the dilute acetic acid to thoroughly moisten them, for forty-eight hours. Then percolate, adding sufficient dilute acetic acid through the percolator to make one liter of percolate. In this dissolve the sugar, and then evaporate until one liter remains.

Acetum Scilla Anglicum.—Vinegar of Squill.

[Br. P.]

Squill, bruised,	100 grams.
Dilute Acetic Acid,	900 “
Dilute Alcohol, sufficient to make	1 liter.

Macerate the squill in the acetic acid for seven days; then strain with expression. Add the spirit to the strained liquor and filter.

Acetum Rosatum.—Vinegar of Roses.

[Ph. F.]

Red Rose Leaves,	100 grams.
Pure Wine Vinegar, q. s. for	1 liter.

Macerate ten days, agitating from time to time; express and filter.

Dilute Acetic Acid can be used instead of vinegar.

Cough Mixture for Infants.

Spirits Ammon. Arom.,	1 fl. ounce.
Tincture Camphor Opii,	1 fl. ounce.
Fluid Ext. Ipecac,	$\frac{1}{2}$ " drachm.
Syrup Pruni Virgin,	1 " ounce.
Aqua, q. s. ad.	3 ounces.

Mix. Dose: A teaspoonful.

AROMATIC VINEGAR.

This is a compound of strong Acetic Acid with certain powerful essential oils. To produce the finer qualities of Aromatic Vinegar, glacial Acetic Acid must alone be employed. Aromatic Vinegar is used as a pungent and refreshing nasal stimulent in languor, faintness, nervous headache, dimness of sight, etc. For this purpose it is generally dropped on a small piece of sponge, placed in a stoppered bottle or a vinaigrette, which is only smelt at. It forms a useful caustic for warts and corns. As it is highly corrosive it should be kept from contact with the skin and clothes.

Aromatic Vinegar.

Camphor,	1 ounce.
Oil of Cloves,	1 drachm.
Oil of Cedrat,	40 grains.
Oil of Lavender,	40 "
Oil of Bergamot,	20 "
Oil of Thyme,	20 "
Oil of Cinnamon,	10 "
Acetic Acid (glacial),	$\frac{1}{2}$ pound.

Mix as before.

Fine Aromatic Vinegar.

Acetic Acid (glacial),	1 pound, Avoirdupois.
Rectified Spirit,	2 fl. ounces, Imperial.
Camphor, Pulv.	2½ ounces.
Oil of Cloves,	1½ drachms.
Oil of Rosemary,	1 drachm.
Oil of Bergamot,	½ “
Oil of Cinnamon,	½ “
Oil of Lavender,	½ “
Oil of Pimento,	½ “

Mix in a stoppered bottle, and agitate until Camphor is dissolved.

Vinaigre Aromatique.

Camphor,	1 ounce, Avoirdupois.
Oil of Cloves,	15 grains.
Oil of Cinnamon,	10 “
Oil of Lavender,	5 “
Acetic Acid (glacial),	½ pint.

Mix same as preceding. This is much improved by doubling the quantity of the oils.

Fine Smelling Salts.

Take Carbonate of Ammonia,	1 pound, Av.
Oil of Bergamot,	1 fl. ounce.
Oil of Lavender,	1 “ “
Oil of Cloves,	2 “ drachms.
Oil of Cassia,	1 “ drachm.

Rub them well together; sublime at a gentle heat into a well cooled receiver, and at once put the powder into a well stoppered bottle or bottles.

Henry's Aromatic Vinegar.

This resembles the preceding, except in being strongly scented with the Oil of Cloves, Lavender, Rosemary and Calamus Aromaticus only.

Smelling Salts.

Use as before, but taking as perfume,
 Oil Bergamot, 2 fl. ounces.
 Oil Verbena, $\frac{1}{2}$ " ounce.
 Attar Roses, 2 drachms.

Mix.

Smelling Salts.

Same as preceding, using
 Oil Bergamot and Lemon, $\frac{3}{4}$ fl. ounce.
 Essence Petit Grain, 3 " drachms.
 Oil of Cloves, 1 drachm.
 Oil of Cassia, 1 "

Mix.

Inexhaustible Smelling Salts.

Liquid Ammonia, 1 pint.
 Attar Rosemary, 1 drachm.
 Attar Lavender, 1 "
 Attar Bergamot, $\frac{1}{2}$ "
 Attar Cloves, $\frac{1}{2}$ "

Mix together by agitation in a very strong, well stoppered bottle. To prepare a smelling bottle of this mixture, fill a stoppered bottle of this mixture with small pieces of sponge previously washed and dried; pour into the bottle as much of the mixture as the sponge will absorb, but not sufficient for a drop to escape if the bottle be inverted.

Arnold's Writing Fluid.

Arnold's Writing Fluid is a mixture of Sulphate of Indigo and ordinary Ink. It flows freely from the pen and becomes very black. On account of the acid it contains it is very destructive to steel pens, and for this evil we can find no cure.

Shutes' Artificial Honey.

Soft Water,	6 pounds.
Pure Best Honey,	3 "
White Moist Sugar,	20 "
Cream Tartar,	80 grains.
Essence of Roses,	24 drops.

Mix the above in a brass kettle; boil over a charcoal fire five minutes; take off; add the white of two eggs, well beaten; when almost cold add two pounds more honey. A decoction of slippery elm will improve the honey if it be added while cooling, but will ferment in warm weather and rise to the surface.

Artificial Honey.

Havana Sugar,	10 pounds.
Water,	4 "
Cream Tartar,	40 grains.
Essence Peppermint,	10 drops.
Honey,	3 pounds.

Dissolve the sugar in water over slow fire; then dissolve the cream tartar in a little warm water, and add while stirring; add the honey heated to boiling point; then add the peppermint and let stand until cold.

Beautiful Blue Writing Fluid.

Prussian Blue, soluble or basic, dissolved in pure water, is the most permanent and beautiful Ink known. It is not affected by the addition of Alcohol, but is immediately precipitated by saline matter, the precipitate, however, still possessing the property of dissolving in pure water.

To Disguise Castor Oil.

Rub up two drops of Oil of Cinnamon with an ounce of Glycerine, and add an ounce of Castor Oil. Children will take it as a luxury, and ask for more.

Liquid Bismuthi.

Oxide of Bismuth,	9 ounces.
Citric Acid,	16 “
Strong Solution of Ammonia,	12 “
Water,	Sufficient.

Dissolve 8 ounces of the Citric Acid in 4 ounces of hot water, and carefully neutralize with some of the Solution of Ammonia, (about 7 fluid ounces); mix with half its volume of water; then add the other 8 ounces of Citric Acid, and when it has dissolved introduce the Oxide of Bismuth. Heat the mixture to near its boiling point for about 15 minutes, with frequent stirrings, then add about a pint of water, and introduce a sufficient amount of Ammonia to dissolve the insolluble, and render the liquid slightly alkaline; augment the solution to the volume of 1 gallon. Filter through paper.

Aromatic Spirits Ammonia.

Carbonate of Ammonia,	8 ounces.
Liquor of Ammonia (strong),	4 "
Oil of Nutmeg,	4 fl. drachms.]
Oil of Lemon,	6 " "
Rectified Spirit,	6 pints.
Water,	3 "

Mix, and distill 7 pints; specific gravity .870.

Barker's Pills.

Comp. Ext. Colocynth,	20 grains.
Ext. Hyosyamus,	15 "
Powdered Soe Aloes,	10 "
Ext. Nux Vomica,	5 "
Podophylline,	1 grain.
Powdered Ipecac,	1 "

Mix, and divide into 12 pills.

Metz's Balsam.

Linseed Oil,	180 parts.
Olive Oil,	180 "
Oil of Laurel Berries,	30 "
Turpentine,	60 "
Melt by gentle heat, then add	
Powdered Aloes,	8 "
Powdered Verdigris,	12 "
Powdered White Vitriol,	6 "
Pour into a bottle; then add	
Oil Juniper,	12 "
Oil Cloves,	4 "

Mix by shaking. Used as a dressing for ulcers, boils, wounds, etc.

Simmons' Liver Regulator.

Pulverized Senna Comp.	2 ounces.
Serpentine Root,	2 "
Golden Seal Root,	1 ounce.
Manna,	1 drachm.
Mix.	

Fine Writing Fluid.

Dissolve Ceruleo-Sulphate of Potassa or Ammonia, (Soluble Indigo), in hot water, and when cold decant the clear. It is an intense blue, and dries nearly black, is perfectly incorrosive and very permanent, and easy flowing.

Gezow's Russian Corn Cure.

Extract Cannabis Indica,	5 parts.
Salicylic Acid,	30 "
Collodion,	240 "

Mix and dissolve. The result is a clear light-green solution. Apply with camel's hair pencil, so as to form a thick coating, for four consecutive nights and mornings. On the fifth day the corn comes off after a hot bath.

Brilliantine.

(Liquor Cosmetic.)

Gum Benzoin,	$\frac{1}{2}$ ounce.
Alcohol,	8 ounces.
Dissolve and filter; then add	
Castor Oil,	4 ounces.
Oil Geranium,	1 drachm.
Oil Bergamot,	1 "
Mix.	

Quinine Hair Tonic.

Glycerine,	4 ounces.
Alcohol,	3 “
Water,	10 “
Tincture Cantharides,	2 drachms.
Sulphate of Quinine,	25 grains.
Oil of Roses,	2 drops.
Oil of Neroli,	5 “
Tincture Cudbear,	Sufficient.
Sulphuric Acid,	Sufficient to dissolve Quinine.

Mocking Bird Food.

Dried Ox Heart,	1 pound.
Poppyseed cake,	1 “
Bread, dried in the oven,	1 “
Dried Ants' Eggs,	1 “
Hemp Seed,	$\frac{1}{2}$ “
Corn Meal,	$\frac{1}{2}$ “
Lard,	$\frac{1}{2}$ “

Grind to coarse powder and mix with the melted lard. When served out to the birds, mix with equal parts of grated carrots.

Lafayette Mixture.

Copabia,	1 ounce.
Liq. Potassia,	2 fl. drachms.
Sweet Spirits Nitre,	1 “ ounce.
Spirits Lavender Comp.,	2 “ ounces.
Syrup Acacia,	4 “ “

Mix. First rub together the Copabia and the Solution Potassia; then add the other ingredients.
Dose—Tablespoonful three times a day.

Haematic Hypophosphites.

Glucose and Maltose,	350 grains.
Hypophosphite of Potassium,	1½ “
Hypophosphite of Manganese,	1 grain.
Hypophosphite of Iron,	1½ grains.
Hypophosphite of Calcium,	1 grain.
Quinine,	$\frac{7}{16}$ grain.
Strychnia,	$\frac{1}{60}$ “
Mix.	

Cream of Camphor.

Gum Camphor,	1 ounce.
Carbonate Ammonia,	1 “
Oil Origanum,	$\frac{1}{2}$ “
Tincture Opium,	$\frac{1}{2}$ “
Spirits Turpentine,	4 fl. ounces.
White Castile Soap,	2 ounces.
Soft Water,	q. s.

Dissolve the soap and Carb. Ammonia in a little water; the camphor and oil in the Turpentine. When both are dissolved, mix in a lotion bottle and add water until of a creamy consistency; if too thick at any time, add q. s. Turpentine. Use as a liniment.

Listerine.

Thymol,	1½ drachms.
Salicylic Acid,	1½ “
Alcohol,	8 fl. ounces.
Glycerine,	2 “
Water,	6 “
Oil of Wintergreen,	15 drops.
Mix.	

Catarrh Inhalent.

Sulphuric Ether,	1½ ounces.
Chloroform,	1 ounce.
Tinct. Iodine,	½ “
Tinct. Camphor,	½ “
Oil Tar,	¼ “

Mix, and inhale, closing the nostril after each inhalation, and forcing the vapor into the nose.

Fothergill's Asthma Cure.

Tinct. Lobelia,	5 ounces.
Ammonia Iodide,	2 drachms.
Ammonia Bromide,	3 “
Syrup Tolu,	3 ounces.

Mix.

Teaspoonful every one, two, three or four hours.

An Odorless Disinfectant.

Scrap Zinc,	1 pound,
Muriatic Acid Com.	4 pounds.
Water sufficient for	4 gallons.

Mix the acid and water and add the zinc. If all dissolves, add more zinc until the acid will dissolve no more. Make this in the open air as the fumes are poisonous and contain arsenic. Filter through muslin and bottle in pints, and label Poison.

Benzoic Acid Pills.

A good pill can be made with five grains benzoic acid and one drop of glycerine. This is a convenient way.

Cholera Infantum.

Tincture Opii,	16 drops.
Arom. Spts. Ammonia,	1 drachm.
Bismuth Subnitrate,	2 "
Simple Syrup,	$\frac{1}{2}$ "
Chalk Mixture,	1 $\frac{1}{2}$ ounce.

Mix. One teaspoonful every two or three hours.

Elixir Bromide of Lithia.

Bromide of Lithium,	640 grains.
Simple Elixir,	1 pint.

Dissolve the Bromide of Lithia in 12 fluid ounces of Elixir by agitation. When the Bromide is perfectly dissolved add the remainder of the Elixir and filter. Each fluid drachm contains five grains of Bromide of Lithium.

Lemon Extract.

Citric Acid,	8 parts.
Tincture of Lemon,	1 part.
White Sugar,	175 parts.
Water,	145 "

Mix.

Paste for Comedones.

White Clay (kaolin),	4 drachms.
Glycerine, .	3 "
Acetic Acid,	2 "
Oil of Lemon,	5 drops.

Mix. Apply every night, and in a few days the black specks can easily be pressed out, and most of them will come out even by simply washing with pumicestone soap.

Espy's Fragrant Cream.

Linseed,	20 ounces.
Salicylic Acid,	25 grains.
Water,	1 pint.
Glycerine,	1 gallon.
Alcohol,	24 fl. ounces.
Carbolic Acid,	1½ fl. "
Good Cologne,	2 fl. "

Dissolve the Salicylic Acid in the water, then macerate the seed in the water for three days, with frequent shaking; then strain through muslin and add remaining ingredients. Shake well and let stand for 24 hours, and strain again through muslin, and bottle.

Stratena Cement.

White Glue,	3 ounces.
Acetic Acid,	5 "

Dissolve the glue in the acid by means of a gentle heat. Then bottle and use as Stratena.

Shiloh's Consumption Cure.

Muriate of Morphia,	3 grains.
Muriatic Acid,	3 minims.
Fluid Ext. Henbane,	2 drachms.
Fluid Ext. Ginger,	3 "
Fluid Ext. of Wild Cherry,	3 "
Dilute Alcohol,	3 "
Chloroform,	1 drachm.
Essence Peppermint,	30 minims.
Syr. of Tar,	3 fl. ounces.
Simple Syr. q. s. to make	8 "

Mother Siegel's Curative Syrup.

Ext. Culver's Root, Stillingia, Poke, Butternut, Dandelion, of each,	6¼ pounds.
Ext. Princes Pine,	5 "
Ext. Mandrake,	4 "
Ext. Gentian,	2 "
Ext. Colocynth,	2 "
Ext. Black Han.,	10 "
Aloes,	9 "
Pow. Capsicum,	1 pound.
Pow. Sassafras,	10 pounds.
Borate Soda,	10 "
Spirits Sea salt,	12 "
Sugar House Syrup,	30 "
Water q. s. to make,	90 "

Mix.

For tonic and alterative take 15 to 20 drops three times a day instantly after eating.

For Cathartic effect one to three teaspoonfuls at bed time.

Antiseptic Tooth Powder.

Where an antiseptic mouth wash is needed use the Perchloride of Mercury in the following form: One grain of the Perchloride and one grain of the Chloride of Ammonium to be dissolved in 1 ounce of Eau de Cologne or tincture of lemon, and a teaspoonful of the solution to be mixed with two-thirds of a wine glass full of water, making a proportion of about 1 of Perchloride in 5,000 parts.

Swift's Syphilitic Specific.—S. S. S.

Chionanthus Virginica,	1 bushel.
Prickly Ash Root,	16 ounces.
White and Red Sumac Root, each	8 “
Sarsaparilla Root,	10 “
Sulphate of Copper,	8 drachms.

Bruise the Graybeard and Sumac Roots and put with the Sarsaparilla in an iron pot sufficiently large, and cover the roots with water. Cover the pot with pine tops, and boil slowly until the liquor assumes the color of ink. Strain while warm, and add the copper and sufficient good Holland Gin to prevent fermentation.

Dose: Wineglassful four times a day.

PART II.

MISCELLANEOUS.

Solidified Glycerine.

We have Glycerine offered in the form of lotions, creams and cerates, and we offer our readers the formula for an article that may be sold as Solidified Glycerine, or Glycerine Jelly.

Transparent Soap 1 ounce.

Water 4 ounces.

Inodorous Glycerine 24 “

Dissolve the soap in the water by heat, adding an equal weight of Glycerine. When dissolved, add the remaining portion of Glycerine and sufficient water to make up the weight. When nearly cool, add any suitable perfume and pour in glass jars. It has a very pale amber color, is transparent, melts easily on the skin, and leaves no residue.

To Administer Nitro-Glycerine.

Nitro-glycerine, as a medicinal agent, has become an article of daily use.

Mr. Martingdale, having observed that nitro-glycerine is soluble in about six times its weight of olive or almond oil, is of the opinion that a one per cent. oily solution would, in many cases, be

preferable to the alcoholic solution of the same strength. It has the advantage of being stable, non-volatile, unflammable, and perfectly non-explosive.

Cocoa butter is also a good solvent, when melted, but care is necessary to prevent, by frequent shaking, a separation during the cooling of the butter. The mass may then be mixed with sugar and rolled into pills, which are to be varnished. As an improvement to this mode of administration, since it is usually desirable to obtain the effects of nitroglycerine as quickly as possible, it is proposed to add the cocoa butter mass to chocolate paste, mix well, with the aid of heat, and then divide it into lozenges or drops, which may be made to contain each one-hundredth of a grain, or more, if necessary.

Simple Test for Aloes in Beverages.

This test is performed by scouring a sample of the liquid suspected with twice its volume of benzine, and then adding some drops of strong ammonia. If no red color makes its appearance, aloes is entirely absent, or may be present in such minute quantity that it may be entirely disregarded. If aloes has been detected, the original liquid will yield a more or less abundant precipitate with ferric chloride, since aloes contains considerable quantities of a tannin-like body.

Table
Exhibiting the differences of strength of the preparations as made according to 1870 and the present Pharmacopœia:

NAME OF PREPARATION,	Number of parts of active constituents in 100 parts by weight of the preparation.	
	Phar. 1870.	Phar. 1880.
Acetum lobeliæ.....	13	10
Acetum opii.....	16.3	10
Acetum sanguinariæ.....	13	10
Acetum scillæ.....	13	10
Acidum aceticum.....	35	36
Acidum aceticum dil.....	4.5	6
Acidum hydrochloricum dil.....	7.8	10
Acidum nitricum dil.....	11.6	10
Acidum phosphoricum dil.....	9.8	10
Acidum sulphuricum.....	About 100	96
Acidum sulphuricum dil.....	12.1	10
Acidi sulphurosum.....	About 6.4	3.5
Alcohol dilutum.....	39	45.5
Confectio sennæ.....	8.33	10
Extractum aconiti.....	Leaves.	Roots.
Extractum conii alcoholicum.....	Leaves.	Fruit.
Ferri et quinina citras.....	16 quinine.	12 quinine.
Liquor acidi arseniosi.....	0.87	1
Liquor ferri chloridi.....	35	39
Liquor potassæ.....	5.8	5
Liquor potassii arsenitis.....	0.87	1
Liquor sodæ.....	5.7	5
Opii pulvis.....	10 or over.	12 to 16.
Opium.....	About 8.	9 or over.
Opium denarcotisatum.....	14
Spiritus anisi.....	6.8	10
Spiritus camphoræ.....	14	10
Spiritus cinnamomi.....	8	10
Spiritus juniperi.....	2	3
Spiritus lavendulæ.....	2	3
Spiritus menthæ peperitæ.....	6.4	10
Spiritus menthæ viridis.....	6.4	10
Spiritus myristicæ.....	2	3
Tinctura aconiti.....	47.6	40
Tinctura aloes.....	3.3	10
Tinctura aloes et myrrhæ.....	Each 12.	Each 10.
Tinctura arnicæ florum.....	23	20
Tinctura asafœtidæ.....	16	20
Tinctura columbæ.....	15	10
Tinctura cannibis.....	36	20
Tinctura cantharidis.....	3.5	5
Tinctura capsici.....	3.5	5
Tinctura catechu composita.....	7	12
Tinctura cinchonæ.....	25	20
Tinctura conii.....	Leaves.	Fruit.

Table.—CONTINUED.

NAME OF PREPARATION.	Number of parts of active constituents in 100 parts by weight of the preparation.	
	Phar. 1870.	Phar. 1880.
<i>Tinctura guaiaci</i>	23	20
<i>Tinctura humuli</i>	17.5	20
<i>Tinctura lobeliæ</i>	15	20
<i>Tinctura myrrhæ</i>	12	20
<i>Tinctura vomicæ</i>	3.5 or less.	2
<i>Tinctura opii</i>	9	10
<i>Tinctura opii deodorata</i>	9	10
<i>Tinctura quassæ</i>	6	10
<i>Tinctura rhei</i>	10	12
<i>Tinctura serpentaria</i>	15	10
<i>Tinctura stramonii</i>	15	10
<i>Tinctura valerianæ ammoniata</i>	15	20
<i>Tinctura veratri viridis</i>	55	50
<i>Tinctura zingiberis</i>	31.8	20
<i>Unguentum acidi carbolicæ</i>	12	10
<i>Unguentum acidi tannici</i>	6	10
<i>Unguentum b. Madonnæ</i>	12	10
<i>Unguentum gallæ</i>	12	10
<i>Unguentum hydrargyri ammoniati</i>	8	10
<i>Unguentum hydrargyri oxidum flav.</i>	8	10
<i>Unguentum stramonii</i>	12	10
<i>Unguentum stramonii</i>	12	10
<i>Unguentum zinci oxidi</i>	16	20
<i>Vinum ergotæ</i>	12.5	15
<i>Vinum opii</i>	13	10
<i>Vinum rhei</i>	14	10

The Exact Weight of Drops.

1. The weight of drops depends on the exterior diameter of the delivery tube, and not on the interior diameter, which influences only the rapidity of the flow of liquor.

2. The nature of the liquid, let it be water, alcohol, ether, chloroform or vinegar, etc., alone influences the weight of the drops, no matter what may be the proportion of matters held in solution.

3. To obtain drops of distilled water weighing at 15 C. (59 F.) five centigrammes, that is, twenty to

the gramme (15½ grains), it is sufficient that the exterior diameter of the delivery tube be exactly three millimetres, 0.118 inch.

4. The work of evaluating the weight of drops was performed over again, after consulting the documents previously published on the subject. An interesting remark is, that of all commonly used liquids, distilled water gives the heaviest drops. There is but one exception, namely, the concentrated solution of caustic soda or potassa, owing probably to peculiar cohesion or chemical affinity.

TABLE OF THE WEIGHT OF DROPS DELIVERED WITH A TUBE THREE MILLIMETERS IN EXTERIOR DIAMETER, AT THE TEMPERATURE OF 15 C.

NAME OF LIQUIDS.	Weight of one drop—gramme,	Number of drops—gramme.
Distilled water.....	0.0500	20
Sugared water, 10, 20 and 50 per cent.....	0.0500	20
Watery sol. of ammonia acet.....	0.0500	20
Lead subacetate, solution.....	0.0500	20
Prussic acid, 1 per cent.....	0.0500	20
Sulphuric acid, 10 per cent.....	0.0500	20
Ferric chloride, s. g. 1.26.....	0.0500	20
Acetic acid, s. g. 1.0635.....	0.0181	55
Acid hydrocyanic, 10 per cent.....	0.0154	22
Alcohol, absolute, s. g. 0.794.....	0.0151	66

As a guide to memory, we submit the following:

One gramme of distilled water gives.....	20	drops.
Watery solution, any per cent.....	20	“
Alcohol, 90 per cent.....	61	“
“ 60 per cent.....	52	“
Distilled spirit.....	57	“
Tincture w., 60 alcohol.....	53	“

Tincture w., 80	“	57	“
Tincture w., 90	“	61	“
Etherial tincture.....			82	“
Fixed oil, about.....			48	“
Essential oil, about.....			50	“
Medicated wine, about.			33 to 35	“

Solubility of Morphia in Chloroform.

Vanderburg has arrived at the following result: Morphia requires fifteen thousand parts of pure chloroform for solution, and less in proportion as the chloroform contains more alcohol. For instance, one part of morphia dissolves in 150 of chloroform and 10 of alcohol.

To Identify Digitalis.

The leaves of digitalis have, according to Perrier, hairs so curiously shaped that even when powdered they can be distinguished, under the microscope, from the leaves of tobacco, aconite, stramonium, hyoscyamus and conium.

New Test Paper.

A new test paper is made by dipping paper into a concentrated infusion of rhubarb. The infusion is divided into two parts. To one, a little ammonia having been added, a dark red paper is obtained, which turns yellow with acids; the other is mixed with a little phosphoric acid, and affords a yellow paper, which turns dark red with alkalies.

Purifying Alcohol.

Add a small quantity of nitrate of silver, about one grain to eight gallons, and distill. This is the gist of a German patent, and if reliable would be quite cheap, since the silver could always be recovered.

To Preserve Stuffed Animals.

Mix 2 parts of air-slacked lime sifted through a fine sieve, and 1 part of sifted tobacco ashes, with $\frac{1}{2}$ part of alum. Rub the mixture thoroughly into the flesh side of the skins to be stuffed.

Prevention of Criminal Arsenic Poisoning.

The poison most commonly used for criminal purposes is arsenic, its tastelessness preventing the victim recognizing it. In view of this, it is proposed that druggists shall sell arsenic to the public when so combined that it immediately attracts attention when added, either by accident or design, to food. The plan has not been overlooked, for there is an officinal mixture in which the arsenic is combined with peroxide of iron and a small quantity of aloes, but it is not sufficiently characteristic, and we call attention to a mixture called Grimaud's Mixture. This consists of one centigramme of iron sulphate and one of potassium cyanide to each gramme of arsenious acid, forming a light blue powder. On being moistened, however slightly, it becomes of a rich blue color, while the taste is so distinctly chalkybeate that it is impossible to overlook its pres-

ence in any article of food. It has the advantage of not altering or interfering in any way with the therapeutic properties of the arsenic.

The Cinchona Cure for Inebriety.

Dr. C. W. Earle has been examining the validity of the claim made in Chicago for the cure of drunkenness by the use of Cinchona bark. The result of Dr. Earle's investigation, says the *New York Medical Record*, is that the Cinchona treatment has made more drunkards in the past year than any liquor saloon.

Effects of Oil of Tansy.

Dr. G. Jewett (*Boston Medical and Surgical Journal*) reports eight cases of poisoning with this drug. Case 1.—Fifteen drops at 11 A. M., a teaspoonful at 2 P. M.; convulsions, shock, general cyanosis; recovery. Case 2.—Teaspoonful to promote catamenia; convulsions, and death in one hour and a half. Case 3.—Unknown quantity, to cause abortion; convulsions; death in three hours and a quarter; no abortion. Case 4.—Teaspoonful, to cause abortion; coma; recovery; no abortion. Case 5.—Four drachms; spasms and death. Case 6.—To cause abortion; rapid death; no abortion. Case 7.—Decoction of tansy leaves, to produce abortion; paralysis; coma; death in twenty-four hours, without abortion. Case 8.—Infusion of leaves, daily, for a week; also for vaginal injection; abortion; metritis; peritonitis; recovery after three months.

As druggists are often asked for oil of tansy, under various pretenses, we believe the above table will be useful in reminding them of the dangers attending the sale of tansy and its preparations.

Cure for the Tobacco Habit.

Dr. Millard, in the *Medical and Surgical Reporter*, calls attention to the value of "pine-apple," as it is called, a fungus that grows upon pine trees, as a cure for the tobacco habit. He has used it and prescribed it frequently, and has seen no case in which it failed to eradicate the craving for tobacco. It is not unpleasantly bitter. It is used as a moderate chewer uses tobacco.

India Rubber Stamps.

India rubber always gives broader and less sharp impressions than metal stamps. The raised india rubber lines of the letters appear more or less broad in the proof; at the same time, temperature has great influence over the india rubber impressions, and, by judicious management, one can at will produce broader or sharper impressions. The india rubber hardens more and more through cold, and thereby is unfit to cast off a broad proof. If a sharp impression is required, then the stamp must be cooled, while, on the contrary, warmth renders the material more pliable.

To Exhaust Cinchona Bark.

By percolating with cold distilled water alone, only about three-sevenths of the different alkaloids can be extracted. The smallest quantity of acid is seventy-three grains of anhydrous hydrochloric acid for every three hundred and twenty grains of alkaloids ascertained to be present in the bark, which will correspond to a mixture of half an ounce of concentrated acid and three and one-half ounces of water. Mix the powdered bark with sufficient cold water to form a thin gruel and add the requisite calculated quantity of hydrochloric acid; the percolation is finished with cold water to exhaustion; then the percolate is evaporated in a water bath to proper consistence. A fluid extract containing one hundred per cent., that is, grain for grain, will be found very convenient. A good fluid extract, prepared as above, must answer the three following tests:

1. One hundred grains, mixed with an excess of solution of caustic soda, must yield a precipitate, which, after washing and drying, must weigh at least five grains.

2. A few drops of concentrated hydrochloric acid must produce a precipitate consisting of cinchotannic and hydrochloric acids, which precipitate must again be dissolved on the addition of much water.

3. A small quantity of the fluid extract, evaporated in a water bath to the consistence of honey, and then treated with small quantities of strong alcohol, successively, until the latter is not sensibly

colored, must leave behind a nearly white, tough mass, insoluble in alcohol. This will prove that too large a quantity of hydrochloric acid has not been used. After having obtained the above-mentioned three-seventh parts of the alkaloids by percolating fifty grains of powdered bark with sufficient water to obtain one ounce of percolate, about twenty-two ounces more of water are required to so exhaust the bark that ferric chloride no longer gives the well known green reaction with the liquids.

Essence Bitter Almond.

Bitter Almonds, crushed,	9 ounces.
Water,	2½ gallons.
Alcohol,	2¾ “

Put the Almonds in a still with the water and macerate for twelve hours; then add the alcohol, and distill off a distillate of 75 per cent.

Aniline Ink Powder.

Thick filtering paper is soaked in a very concentrated solution of an aniline color, and allowed to dry. It may then be soaked again to make it absorb more color. With a little more attention it will not be difficult to prepare the paper so as to have a known quantity of coloring matter in a square of a given size.

Paper prepared as above is very convenient to have when traveling. When one wishes to write, it is only necessary to tear off a small piece of the paper and let it soak in a little water. Aniline blue

paper may also be employed conveniently for blueing in washing. Other uses will also suggest themselves.

Explosive Medicines.

A mixture of perchloride of iron and glycerine exploded in the pocket of a patient. A druggist who dried some calcium hypophosphite in a vessel containing sand, was killed by its explosion. A tooth powder composed of potassium chlorate and cachou, has, it is stated, been known to explode in the mouth of a person using it. Some potassium lozenges carried in the pocket in contact with lucifer matches, produced an explosion of an unpleasant nature. Oxalate and citrate of calcium have exploded, but only at a high temperature. Spontaneous explosion has occurred in the case of potassium permanganate pills. A well known French chemist prepared ozone with some powders composed of equal parts of peroxide of manganese, potassium permanganate and pulverized oxalic acid; an explosion ensued. At Strassburg, while some lycopodium powder was being changed from one receptacle to another, the particles escaped, filled the surrounding atmosphere, and coming in contact with the gas, caused an explosion.

Extraction of Cocaine.

Exhaust the cocaine leaves with ether. After recovering the ether by distillation, treat the residual ethereal extract with boiling water, mix with mag-

nesia and dry. Exhaust the powder thus obtained with amyl alcohol. The cocaine, which is somewhat yellowish, may be obtained colorless by recrystallization.

Mechanic's Arnica Plaster.

French isinglass, 1 oz.; warm water, 1 pint; glycerine, 1 oz.; tincture of arnica, $\frac{1}{2}$ oz. Soak isinglass in a little warm water for 24 hours, then evaporate nearly all the water by gentle heat. dissolve the residue in a little proof spirits of wine, and strain the whole through a piece of open linen. The strained mass should be a stiff jelly when cold. Stretch the kid on a wooden frame, melt the jelly and apply it evenly with a badger hair brush. When this is dry, apply a second coat. When the second is dry, apply over the whole surface two or three coatings of balsam of Peru.

Benzine Jelly for Removing Spots.

One hundred and twenty ounces of white soap are dissolved in 180 ounces of hot water in a litre bottle, 30 ounces of ammonia added. The solution is then made up to three-fourths of the bottle by the addition of water, and the whole shaken up. A teaspoonful of this mixture is placed in a bottle holding 250 ounces, and mixed therein with some benzine, and afterward the bottle is filled with benzine under protracted shaking. The result is a gelatinous mass, from which the benzine evaporates but slowly. It is useful in removing spots from articles of apparel.

Fire-Proof Writing Paper.

A paper which will withstand an immense heat, without rendering the writing illegible, may be made of an asbestos body coated on one or both sides, in combination with a thin writing paper coated or impregnated with salt. The heat has the effect of forming a thin glaze, which will combine with the asbestos body. The thin coating of salt may be applied to the paper with a brush or by means of a bath, and combine with the asbestos body by means of a cement composed of or containing silicate of soda, to which should be added a small portion of the carbonate of lime, to set the mixture. The asbestos or coaline paper may be united by being submitted to a powerful pressure.

The ink used for printing or writing on this fire-proof combination may be an ordinary ink containing nitrate of silver, or, if desired, other solutions of metal may be used. When paper, so prepared and written and printed upon, is subjected to a great heat, the thin surface is consumed or destroyed, leaving the metallic or incombustible part of the ink, which has penetrated or touched the thin paper, plainly legible on the asbestos body.

Paper on asbestos, thus prepared, is expected to be used for the most important instruments and other written or printed certificates which are of great value, the destruction of which by fire would entail considerable embarrassment.

Excellent Black Copying Ink.

Nut Galls, coarse powder,	9 ounces.
Logwood, ground,	$4\frac{3}{4}$ “
Water,	$1\frac{3}{4}$ gallons.

Boil these together until three-fourths of a gallon remain, and add, while still warm, after filtering:

Sulphate of Iron,	$4\frac{3}{4}$ ounces.
Sulphate of Copper,	3 “
Gum Arabic,	$3\frac{1}{2}$ “
Rock Candy,	1 ounce.
Water,	$1\frac{3}{4}$ quarts.

Add this solution to the above decoction, stir it thoroughly, let it stand for twenty-four hours, and filter the ink from the sediment through a felt bag.

Another Black Copying Ink.

Turkish Gall Nuts, coarse powder,	8 parts.
Sulphate of Iron,	4 “
Gum Arabic,	2 “
Alum,	1 part.
Indigo,	1 “

Place the ingredients in a flask, pour 12 parts of vinegar over them, and let them digest in a moderately warm place for twenty-four hours. Then add 60 parts of beer, let it again stand in a warm place for a few days, when the ink is ready for use.

Cream of Camphor for Sprains.

Take of white Castile Soap, in shavings, $2\frac{1}{2}$ oz.; Camphor, 2 oz; Carbonate of Ammonia, 2 oz.; Water, 4 pints; Tincture of Opium, 1 oz.; Oil of Thyme,

1 oz; Spirits of Turpentine, q. s., about 4 or 5 oz. Dissolve the soap in 3 pints of water, the carbonate of ammonia in the rest of the water, and mix with agitation until solutions. Dissolve the camphor in the spirits of turpentine, to which add the oil of thyme and tincture of opium, and finally add all together with brisk shaking until it is brought to a creamy consistency.

Salt and Mustard Antidote.

If a person swallows any poison whatever, or has fallen into convulsions from having overloaded the stomach, an instantaneous and very effective remedy is a heaping teaspoonful of common salt and as much brown mustard, stirred rapidly in a teacupful of water. It is scarcely down before it begins to come up, bringing with it the remaining contents of the stomach; and lest there be any remnant of poison, however small, let the white of an egg, sweet oil, or butter or lard, several spoonsful, be swallowed after the vomiting, because these very common articles nullify a larger number of virulent poisons than any medicine in the shops.

Ethereal Solution of Sulphur.

Dissolve ten grains of washed sublimed Sulphur in rectified Sulphuric Ether—(Ether dissolves $\frac{1}{8}$ of its weight of Sulphur, Rectified Spirits, one hundredth)—aiding the solution by placing the bottle in hot water. This was Dr. Roux's celebrated remedy for cholera when it visited Paris in 1849 and 1852; 25 or 30 drops of the solution were taken in half

a wine glass of sweetened water, and the glass filled with seltzer water. The success of this remedy is verified by several physicians of note.

Liver Regulators.

Sulphate of Magnesia,	1 pound,
Water,	24 ounces.
Aromatic Sulphuric Acid,	4 drachms.
Burnt Sugar, sufficient.	

Dissolve and filter. Dose, a teaspoonful.

Simmons'.

Pulv. Senna Compound,	2 ounces.
Surpentaria root,	2 "
Golden Seal root,	1 ounce.
Manna,	1 drachm.

Mix.

Kalsomine.

To 15 pounds of the best Whiting, thinned down to proper consistence in cold water, add 1 pound of clear White Glue dissolved in warm water. Apply cold except in cold weather, when the walls are all cold, in which case it is well enough to use some warm water, enough to keep the mixture thin, so that it will spread easily. To dissolve the glue, first cover it with cold water, and let stand and soak until it becomes soft, then pour off the cold water and add hot water; it will then readily dissolve. For very fine work it is recommended to use Zinc White instead of Whiting. Half an ounce of Ultra-

marine blue added to the above, makes a clearer white. The mixture should be colored to suit before putting in the glue.

Artificial Gold Bronze.

If a mixture of copper and Chloride of Ammonia is well mixed with Vanadinite of Ammonia and carefully heated, a beautiful and rich color is obtained, and which will appear in the liquid in the form of fine gold flakes. This precipitate, when intimately mixed in a mortar with a solution of gum or varnish, is just as good as the finest gold bronze.

A New Green.

Bindschedler's Dimethylphenol Green is obtained by treating one molecule dimethylanilin in an aqueous solution of Zinc Chloride at 86 F., with sufficient Bicromate of Potash to liberate two atoms of oxygen. Shining coppery crystals are formed, which are successively washed with water, alcohol and ether. This new dyestuff is easily soluble in water, but insoluble in the alcohol and ether. It dyes silk yellow green, but is unstable.

To Restore Color.

It is customary to use Ammonia for the purpose of neutralizing acids that have accidentally or otherwise destroyed the color of fabrics. This must be applied immediately, or the color is usually imper-

fectly restored. After careful use an application of Chloroform will bring out the colors as bright as ever. Plush goods and all other articles dyed with aniline colors faded from exposure to light, will look as bright as ever after sponging with Chloroform. The commercial chloroform will answer the purpose very well, and is less expensive than the purified.

Cachous Aromatisis.

Nutmegs,	7	grammes.
Cardamoms,	5	"
Vanilla,	8	"
Cloves,	2½	"
Orris,	10	"
Musk,	3	centigrammes.
Oil of Peppermint,	32	drops.
Oil of Lemon,	20	"
Oil of Cinnamon,	6	"
Oil of Orange Flowers,	12	"
Sugar,	20	grammes.
Licorice Powder,	35	"
Extract of Licorice, sufficient.		

Form a pill mass; from which form pills of the required size.

Radcliffe's Purgative Elixir.

Jalap,	7½	Troy ounces.
Cape Aloes,	5	" "
Gentian,	2	" "
Canella Alba,	1½	" "

Bitter Orange Peel,	Troy ounce.
Grains of Paradise,	3 drachms.
Scammony,	1½ ounces.
Senna,	1½ “
Dilute Alcohol,	12 pints.

Reduce the drugs to a coarse powder; macerate with the Alcohol for fourteen days, stirring daily; then filter.

Astringent Tooth Wash.

White Oak Bark,	2½ ounces.
Ratany Root,	½ ounce.
Sassafras,	1 drachm.
Red Cinchona,	3 drachms.
Cardamom Seeds,	30 grains.
Ceylon Cinnamon,	20 “
Cloves,	30 “
Oil of Wintergreen,	1 fl. drachm.
Oil of Anise,	½ “
Alcohol,	20 ounces.
Water,	12 “

Reduce the solid substances to a coarse powder; macerate them two days in the menstruum; press out the liquid; add to it the essential oils, and filter the whole through paper.

Quillaya Tooth Wash.

Star Anise,	1 ounce.
Quillaya Bark,	3 ounces.
Cloves,	2 drachms.

Cinnamon,	2 drachms.
Oil of Peppermint,	12 minims.
Cudbear,	1 drachm.
Diluted Alcohol,	28 ounces.

Exhaust the drugs, coarsely powdered, by maceration or displacement; add the essential oils, and filter. The preparation gives a foam like Sozodont.

Cough Mixture.

Potassi Citratis,	1 drachm.
Succus Limonis,	2 ounces.
Syrup of Ipecac,	$\frac{1}{2}$ ounce.
Syrup Simple, suf. to make	6 ounces.

Mix. A teaspoonful from four to six times a day.

Compound Elixir of Quinine.

Cinchonine Sulphate,	250 grains.
Quinine,	145 “
Cinchonidine,	128 “
Calcium Hypophosphate,	114 “
Calcium Carb. Precipitated,	1 Troy ounce.
Oil of Anise,	8 minims.
Oil of Caraway,	16 “
Oil of Ceylon Cinnamon,	16 “
Sugar, granulated,	48 Troy ounces.

Alcohol and water sufficient to make one gallon.

Dissolve the sugar in 4 pints of water, and add 18 fluid ounces of Alcohol. Rub the oils thoroughly with the Precipitated Calcium Carbonate, and then

gradually add, with constant stirring, 8 to 10 fluid ounces of the preceding mixture. Pour this now into the remainder of the saccharine solution and set the mixture aside, shaking frequently; then, after an interval of about two hours, filter, returning the first turbid portion, and when all has passed through, follow with water until the filtrate measures $7\frac{1}{2}$ pints. Upon the Calcium Hypo. pour 2 fluid ounces of water, and warm the mixture on a water bath. Now add the Sulphates of the Alkaloids, and, when double decomposition is complete, remove the mixture from the water bath and gradually add 4 ounces of Alcohol; then pour it into a small filter, and when all the liquid has passed through, follow with Alcohol until the filtrate measures 8 fluid ounces. Then pour this into the simple Elixir first obtained, and mix the whole.

Tincture of Vanilla.

Vanillin, crystallized,	3 drachms.
Coumarin,	1 drachm.
Glycerine,	4 fl. ounces.
Alcohol,	2 pints.
Water, sufficient to make	1 gallon.

Dissolve the Vanillin and the Coumarin in the Alcohol, and add four pints of water. Mix the caramel and Glycerine with one pint of water and pour it into the first solution, together with enough water to make the tincture measure one gallon; and filter it, if necessary.

Harness Polish.

Four ounces Glue, $1\frac{1}{2}$ pints Vinegar, 2 ounces Gum Arabic, $1\frac{1}{2}$ pints Black Ink, 2 drachms isinglass. Break the glue in pieces, put in a basin, and pour over it about a pint of the vinegar; let it stand until it becomes perfectly soft; put the gum in another vessel, with the ink, until it is perfectly dissolved; melt the isinglass in as much water as will cover it, which may be easily done by placing the cup containing it near the fire about an hour before you want to use it. To mix them, pour the remaining vinegar, with the softened glue, into a sand pan, upon a gentle fire, stirring it until it is perfectly dissolved, that it may not burn the bottom, being careful not to let it reach the boiling point; about 82° C. is the best heat. Next add the gum; let it arrive at about the same heat again; add the isinglass; take from the fire and pour it off for use. To use it, put as much as is required in a saucer, heat it sufficiently to make it flow, and apply a thin coat with a piece of dry sponge; if the article is dried quickly, either in the sun or by fire, it will have the better polish.

Poultry Powder.

Oyster Shells (grossly powdered),	2,400 parts.
Carbonate of Lime,	380 “
Phosphate of Lime,	380 “
Powdered Black Pepper,	40 “
Red Pepper,	40 “

Oxide of Iron,	60 parts.
Chloride Phosphates and Sulphates	
soluble in water,	80 “
Mix. This is known as the Imperial Egg Food.	

Palatable Prescriptions.

Citrate of Potassium can be largely masked by the free use of lemon juice. Muriate of Ammonia is largely covered by licorice, provided the latter be added in such quantity that there will be 10 or 15 grains of it for every 10 grains of the Muriate. The addition of Glycerine to a mixture containing an ammoniacal or other irritant salt often has a most happy effect in obtunding the acidity; it must not be forgotten, however, that Glycerine throws out of solution most alkaloidal salts. This is essentially important in connection with the fact that the addition of Glycerine to the Tincture of the Chloride of Iron is most advantageous from the æsthetic point of view. We are very apt to combine Tinctures of Chloride of Iron with Salts of Quinine, Strychnine or other Alkaloids. Even when such solution is very strongly acid, Glycerine precipitates the organic principles. Syrup of Squills, Syrup of Ipecac, and most other sweet expectorants, can readily be masked by the Syrup of Wild Cherry Bark, provided Cyanide of Potassium (at least 1-20 grain to a dose) be added to intensify the Prussic Acid taste. The excessive sweetness of these mixtures is disagreeable to some individuals; this, of course, can readily be obviated by the addition of lemon juice or other acid.

Sage's Catarrh Snuff.

Quinia Sulphate,	6 grains.
Per Sulphate of Iron,	6 "
Pulv. Opium,	4 "
Chlorate of Potassium,	8 "
Lycopodium,	8 drachms.

Mix. Use as a snuff three times a day.

Imitation Bay Rum.

Deodorized Proof Spirits,	1 gallon.
Finest Bay Oil,	2 drachms.
Rum Ether,	1 ounce.
Crushed Cardamom,	1 "
Acetic Ether,	$\frac{1}{2}$ drachm.
Oil Pimento,	$\frac{1}{2}$ "

Stand in a warm place two weeks, stir in $\frac{1}{2}$ ounce magnesia, and filter.

Groves' Chloriodine.

Chloroform,	4 drachms.
Ether,	$1\frac{1}{2}$ "
Oil Peppermint,	8 drops.
Resin Indian Hemp,	16 grains.
Capsicum,	2 "

Macerate two or three days and filter.

Muriate of Morphia,	16 grains.
Simple Syrup,	1 ounce.
Hydrochloric Acid,	$\frac{1}{2}$ "
Water,	$\frac{1}{2}$ "

Dissolve the morphia in the syrup and the acid in the water by means of the water bath, add the two together, add to the above and filter.

Worm Remedies.

Santonine, finely triturated,	27 grains.
Oil Sassafras,	1 minim.
Alcohol,	2 fl. ounces.
Fl. Ext. Pink Root,	2 " "
Fl. Ext. Dandelion,	$\frac{1}{2}$ fl. drachm.
Golden Seal Molasses,	$\frac{1}{2}$ fl. ounce.

No. 2.

Santonate of Soda,	30 grains.
Simple Syr. or Orange Flower Syrup,	18 fl. ounces.
Dissolve.	

Worm Powder.

Santonine,	3 grains.
Jalap,	6 "
Resin Scammony,	8 "
Sugar,	12 "

Mix and divide into 6 powders. Dose, one night and morning for a child five years old.

Burton's Pharmacology says for thread worms the following are used: Local injections of alum, lime water, quassia, eucalyptol, sodium chloride and tannin, or substances containing it. For round worms, santonine, santonica.

Goddard's Elixir of Valerianate of Ammonia.

Valerianic Acid from the root,	6 fl. drachms.
Carbonate of Ammonia,	q. s.
Carbonic Acid Water,	8 fl. ounces.
Red Curaçoa Cordial,	20 fl. "

Orange Flower Water,	8 fl. ounces.
Mucilage of Gum Acacia,	2 fl. “

Saturate the Valerianic Acid with the Carbonate of Ammonia Water, add to it the flavoring ingredients and Mucilage, and filter. The dose is one teaspoonful.

To Flavor and Color Cigars.

The best coloring for darkening light wrappers is probably a concentrated infusion, almost a fluid extract made from the stems and cuttings of dark tobacco. The same, obtained from fine Havana tobacco, is employed for flavoring fillers. This process may be called a natural flavoring. For artificially reaching the same end, the following are recommended.

No. 1.

Fluid Extract Valerian,	1 ounce.
Tincture of Tonka Bean,	8 ounces.
Alcohol to complete,	1 pint.

No. 2.

Valerianic Acid,	3 drachms.
Acetic Acid,	40 minims.
Butyric Ether,	10 “
Alcohol,	4 pints.

No. 3.

Tincture of Valerian,	4 drachms
Butyric Ether,	4 “
Tincture of Vanilla,	2 “
Spirits of Nitrous Ether,	1 drachm.
Alcohol,	5 ounces.
Water, to complete,	1 pint.

Horse and Cattle Powder.

Powdered Foenugreek,	3 ounces.
Powdered Black Antimony	2 “
Sulphur,	4 “
Powdered Resin,	2 “
Powdered Potassium Nitrate,	3 “
Epsom Salts,	6 “

Mix them. Some prefer adding a little powdered Quassia or Gentian sufficient to give a slightly bitter taste (say 1 pound in 20). The powdered Antimony should be that prepared from the best quality of needle antimony, and not a mixture of black lead so frequently sold as Powdered Black Antimony.

Gezow's Russian Corn Cure.

Extract Cannabis Indicus,	5 grains.
Salicylic Acid,	30 “
Collodion,	240 “

Mix. A light green solution. Apply for several times at night by means of a camel's-hair brush or a match. Generally the corn can be removed after a hot bath on the fifth day.

Jewellers' Rouge.

Peroxide of Iron was directed by old Pharmacopœias to be prepared by first drying green Copperas in a cast iron kettle, and igniting the powder in a crucible or retort till vapors are no longer emitted. Finally the residue is powdered and washed with hot water until the washings afford no precipitate with yellow Prussiate of Potassa. Jewellers' Rouge is

simply Colcothar reduced by levigation to a very fine powder, and completely free from all sorts of gritty particles.

Liquid Starch Finish.

Spermaceti,	1 ounce.
Gum Arabic,	1 “
Borax,	1 “
Glycerine,	2½ ounces.
Water,	14½ “
Perfume,	q. s.

Mix, and make an emulsion. Three spoonfuls to about four ounces of boiling starch paste.

Tinc. Opii Crocata.

Opium,	30 parts.
Saffron,	10 “
Cloves,	2 “
Cinnamon,	2 “
Dilute Alcohol,	150 “
Water,	150 “

Rub the Opium to a thin paste with the water; and the Saffron, Cloves and Cinnamon to the dilute Alcohol; mix all together, and allow to macerate for one week; then filter.

How Celluloid Is Made.

A roll of paper is slowly unwound, and at the same time saturated with a mixture of 5 parts of Sulphuric Acid and 2 of Nitric, which fall on the

paper in a nice spray. This changes the cellulose of the paper into a fine pyroxylin (gun cotton). The excess of acid having been expelled by pressure, the paper is washed with plenty of water until all traces of acid have been removed; it is then reduced to pulp and passed on to the bleaching trough; most of the water having been got rid of by means of a strainer, the pulp is mixed with from 20 to 40 per cent. of its weight of camphor, and the mixture thoroughly triturated under mill-stones, the necessary coloring matter having been added in the form of powder, a second mixture and grinding follows. The finely divided pulp is then spread out into thin layers or slabs, and from 20 to 25 of these layers are placed in a hydraulic press, separated from one another by sheets of blotting paper, and subjected to a pressure of 140 atmospheres, until all traces of moisture have been got rid of. The plates thus obtained are broken up and soaked for 24 hours in Alcohol. The matter is then passed between rollers heated from 140 to 150 degrees Fahrenheit, whence it is issued in the form of elastic sheets.

Theatrical Paints.

WHITE PAINTS.

White Meal,	2 parts.
Olive or Almond Oil,	2 “
Powdered Talc,	1 part.
Oxide of Zinc,	½ “

Theatrical Paints.—CONTINUED.**WHITE NO. 2.**

Oxychlorate of Zinc,	5 parts.
White Wax,	2 “
Sweet Almond Oil,	5 “

RED PAINT.

About 1 part of Carmine to 40 of finished paint is the proper proportion. Dissolve one part of Carmine in sufficient Aqua Ammonia (4 to 8 parts.) Mix with 6 parts of Powdered Talc dry powder, and mix with—

White Meal,	13½ parts.
Olive or Sweet Almond Oil,	5 “
Mix.	

Prescription for Alcoholism.

Tincture Capsicum,	3 drachms.
Aromatic Spts. Ammonia,	3 “
Tincture Colombo,	1 ounce.
Tincture Cardamom Comp.,	6 drachms.
Aqua, sufficient to make,	8 ounces.

Mix. A tablespoonful, with the same quantity of water, every two hours, or when craving for drink.

Lavarr's Sure Cure.

Fluid Ext. Pokeberries,	80 minims.
Fluid Ext. Sassafras,	40 “
Liquid Ammonia Caustic,	5 “
Sodium Bromide,	20 grains.
Alcohol,	½ fl. ounce.
Oil Peppermint,	1 minim.

Powdered Cochineal,	4 grains.
White Sugar,	2 dr. Troy.
Water, sufficient to make,	4 fl. ounces.

The bottle is enclosed in a strawboard pipe, and wrapped in a thick, light blue wrapper, upon which it is stated Health is Wealth.

Compound Ointment Oil of Cade.

Linseed Oil,	3 ounces.
Cade Oil,	4 "
Emp. Plumbi,	4 "
Cera Alba,	4 "
Cetaceum,	$\frac{1}{2}$ ounce.

Mercuric Oleate, 20 per cent. Oxide.

Precip. Oleate of Mercury,	400 grains.
Purif. Oleic Acid,	168 "

Mix them, warm gently, stir well and cool.

Mercuric Oleate, 10 per cent. Oxide.

Oleate of Mercury,	250 grains.
Purif. Oleic Acid,	250 "

Mix them.

Oleate of Mercury and Morphine.

Precip. Oleate of Mercury, 28 per ct.,	400 grs.
Morphine (alkaloid)	28 "
Purif. Oleic Acid,	132 "

Mix and combine by heating very gently. A very dark brown semi-liquid or soft solid, according to temperature.

Aromatic Antiseptic Tooth Powder.

Castile Soap,	1 pound.
Pumice-stone, in fine powder,	1 ounce.
Thymol,	20 grains.
Oil of Wintergreen,	30 drops.

Shave the soap into shavings, beat it into a paste with a little water, and add first the Pumice-stone and lastly the Thymol and Oil of Wintergreen, dissolved in a small quantity of Alcohol.

Dandruff Wash.

Borax,	15 parts.
Glycerine,	30 “
Decoction of Soap Bark Root	50 “
Made up with water to	300 “

In the morning rub the hair with a pomatum of—

Tannin,	2 parts.
Tincture of Cantharides,	5 “
Vaseline,	50 “
Balsam of Peru,	5 “
Oil of Mace,	2 “

The last ingredient, the odor of which is objectionable to many persons, but is an excellent preventive against the falling out of the hair, can be mixed with Vanilline, whereby its pungent odor is disguised.

A Useful Solvent for Many Gum Resins.

The use of $7\frac{1}{2}$ per cent. of solution of caustic lime is a solvent for many gum resins, the solution mixing without precipitation. The following degrees of

solubility have been noted: Ammoniacum, 1 part to 4; Myrrh, 1 in 5; Guaiacum, 1 in 7; Opium, 1 in 10; Aloes, 1 in 15; Assafetida, 1 in 15.

Lime Juice and Glycerine.

Lime or Lemon Juice,	8 ounces.
Rose Water,	2 “
Elder Flower Water,	2 “
Alcohol,	2 “
Glycerine,	3 “
Oil of Lemon,	30 drops.

Heat the Lemon Juice in a porcelain dish to nearly the boiling point. When cool, add the aromatic waters and the Alcohol, and mix the whole well together. After twenty-four hours' repose, decant or filter the liquor, and finally add the Glycerine and Oil of Lemon. Agitate the mixture well, so as to make it homogeneous.

Pimple Ointment.

White Precipitate,	10 grains.
Cold Cream,	1 ounce.
Mix. To be applied every morning.	

Hair Curling Fluid.

Gum Arabic,	1 drachm.
Sugar,	1 “
Rose Water,	2 ounces.

Mix and dissolve. Moisten the hair with the solution at bed-time, and roll it in twists of paper so as to make papillotes.

Medicated Pencils.

The Medicated Pencils are intended as substitutes for the ordinary Ointments. They offer the advantage of greater cleanliness and convenience in their application. The different masses are to be rolled or cast into cylindrical pencils, and protected with waxed paper or tin foil, as the case may demand, with an outside covering of ordinary paper, to provide against the heat of the hand.

YELLOW OXIDE OF MERCURY PENCILS.

Pure Glycerine,	2½ drachms.
Cocoa Butter,	5 “
Yellow Oxide of Mercury,	24 grains.

Mix.

RED PRECIPITATE PENCILS.

Pure Glycerine,	2½ drachms.
Cocoa Butter,	5 “
Red Precipitate,	24 grains.

Mix.

OIL OF CADE PENCILS.

Pure Glycerine,	2½ drachms.
Cocoa Butter,	5 “
Pure Oil of Cade,	15 “

Mix.

DEODORIZED IODOFORM PENCILS.

Pure Glycerine,	2½ drachms.
Cocoa Butter,	5 “
Iodoform,	1 ounce.
Oil of Peppermint,	6 drops.

Mix.

CORROSIVE SUBLIMATE PENCILS.

Pure Glycerine Pencils,	3 drachms.
Cocoa Butter,	5 "
Corrosive Sublimate,	15 grains.

Mix.

BALSAM OF PERU PENCILS.

Pure Glycerine,	75 grains.
Cocoa Butter,	7 drachms.
Balsam of Peru,	75 grains.

Mix. The resinous matter is to be separated.

NORWEGIAN TAR PENCILS.

Yellow Vaseline,	75 grains.
Cocoa Butter,	5 drachms.
Norwegian Tar,	75 grains.

Mix.

OPHTHALMIC PENCILS.

Red Precipitate,	45 grains.
Oxide of Zinc,	45 "
Sugar of Lead,	45 "
Burnt Alum,	45 "
Corrosive Sublimate,	7 "
Pure Glycerine,	2½ drachms.
Cocoa Butter,	5 drachms.

Mix.

Compound Lead Plasters.

Simple Lead Plaster,	200 parts.
Yellow Wax,	25 "

In the meanwhile, dissolve on the water bath 13 parts each purified Gum Ammoniac and purified Galbanum in 13 parts of ordinary Turpentine, and then mix the solution intimately with the above compound.

New Sticking Plaster.

Dissolve Glue in boiling water. Compound the solution with 25 per cent. of Official Acetic Acid, perfume with Rose Oil, and spread it upon the paper, gauze or muslin.

Galbanum and Saffron Plaster.

Place in a copper pan 200 parts of simple Lead Plaster and 66 parts of Yellow Wax. Let the compound cool off somewhat, and then add 200 parts of purified Galbanum, previously dissolved on the water bath, in 33 of ordinary Turpentine and finally 20 parts of pulverized Saffron, and mix the whole thoroughly.

Sealing Wax and Wafers.**LIGHT BROWN.**

Venetian Turpentine,	133 parts.
Brown Mineral Color,	33 "
Whiting,	16 "
Shellac,	250 "
Cinnabar,	16 "
Magnesia,	3 "

Mix.**CRIMSON.**

Venetian Turpentine,	66 $\frac{1}{5}$ parts.
Shellac,	133 "
Colophony,	33 "
Carmine,	50 "
Magnesia, mixed with Oil Turpentine,	3 "

Mix.

Sealing Wax and Wafers.—CONTINUED.**GOLD.**

Shellac,	1260 parts.
Turpentine,	1295 “
Resin,	700 “
Mastic,	35 “
Dutch Gold, cut up fine,	70 “

Mix.**GREEN.**

Shellac,	980 parts.
Turpentine,	560 “
Resin,	525 “
Gypsum,	315 “
Mineral Blue,	420 “
Massicot,	560 “

Mix.**VERY FINE RED.**

Venetian Turpentine,	133 parts.
Shellac,	233 “
Cinnabar,	83 “
Chalk, mixed with Oil Turpen.,	3 “

Mix.**ORDINARY RED.**

Shellac,	533 parts.
Resin,	266 “
Turpentine,	666 “
Gypsum,	133 “
Cinnabar,	833 “

Mix.

Sealing Wax and Wafers.—CONTINUED.**ROSE COLOR.**

Shellac,	61 parts.
Munich Lake,	4 “
Tin Ash,	17 “
Flake White,	52 “
White Flake (the finest White Lead),	17 “

Mix.

WHITE.

Bleached Shellac,	560 parts.
Turpentine,	280 “
Spanish Chalk,	192 “
Magnesia,	17 “
Flake White,	245 “
White Lead,	350 “

Mix.

ORDINARY BLACK.

Shellac,	18 parts.
Venetian Turpentine,	10 “
Whiting,	8 “
Calcined Lampblack,	2 “

Mix.

DARK BLUE.

Venetian Turpentine,	100 parts.
Resin,	33 “
Shellac,	233 “
Mineral Blue,	33 “

Mix.

Sealing Wax and Wafers.—CONTINUED.**VERY LIGHT.**

Bleached Shellac,	157½ parts.
Turpentine,	525 “
Mastic,	385 “
Calcined Mica,	350 “
Ultramarine,	262½ “
Mix.	

BROWN.

Shellac,	1068 parts.
Resin,	560 “
Cinnabar,	175 “
Turpentine,	910 “
Gypsum,	525 “
Lampblack,	122 “
Mix.	

Soap Plaster.

Melt in porcelain dish 150 parts of simple lead plaster and 25 parts of yellow wax, and mix the compound with 10 parts of pulverized Castile soap.

Powdered Camphor.

Glycerine is the simplest and most efficient substance to keep Camphor in a finely divided state. Mix 2 parts of Glycerine in 10 parts of Alcohol, and triturate it with 150 parts of Camphor to a fine powder.

Alcoholic Solution of Gelatine.

Gelatine is easily prepared by allowing the hard Gelatine to swell up in water, then melting, and finally adding four or five times its quantity of 95 per cent. Alcohol. The solution remains entirely clear, runs off like Collodion, and dries far quicker than Gelatine Emulsion with 5 per cent. Alcohol, and it can be compounded with Ammonia to basic reaction without injuring its firmness.

Cleansing Fluid for Glass Plates.

Mix 30 parts of water, 7 parts of Hydrochloric Acid, and a trace of Iodine. Rub the plate with a linen rag moistened with the fluid, and then polish in the usual manner. This is especially efficient in case Iron Salts have been used for the developing bath.

Nitrogenized Iron.

(Syrup of Albuminate of Iron and Soda.)

White Sugar,	$\frac{1}{2}$ ounce.
White of one Egg.	
Tinct. Chlo. of Iron,	$\frac{1}{2}$ fl. ounce.
Water and Solution of	
Soda q. s. to make	1 fl. ounce.

Mix the egg with the sugar, adding enough water to effect solution, then add the tincture of Iron, then just sufficient solution of soda to dissolve the coagulum, finally add the water. There are certain proprietary articles sold as Nitrogenized Iron which

are similar to this preparation, but we are unable to state the exact strength. It will be noted that this syrup contains one-half as much iron as the tincture.

Marshmallow Ointment.

Powdered Tumeric,	1 ounce.
Lard,	50 ounces.
Yellow Wax,	3 “
Burgundy Pitch,	3 “

Digest the tumeric in the lard for half an hour over a water bath, then add the beeswax and pitch; melt the whole together, and strain the ointment. The preparation is thus popularly designated because it was formerly made with Marshmallow Root, but as this substance, besides being useless, rendered the ointment liable to become moldy, it is now left out of the composition.

Tincture of Gelsemium.

Powdered Yellow Jasmine Root,	4 Troy ounces.
Dilute Alcohol,	12 fluid ounces.

Macerate for two weeks, and filter. Dose of from 20 to 40 drops.

Camphorated Phenol.

Carbolic Acid,	4½ ounces.
Alcohol,	½ ounce.
Camphor,	12 ounces.

Let the mixture stand until the solids have melted; it looks then like an oily liquid.

Artificial Slating for Blackboards and School Slates.

Mix 16 parts of ground Pumice-stone and 21 of pulverized Animal Charcoal with 10 parts of purified Caoutchouc and 5 of Sulphur. Roll out the mixture in thin sheets and cut it into the desired sizes, which are then formed into packages in the following manner: First, a sheet of tin plate, next one of paper; on the top of this a layer of the above composition; then, again, a sheet of tin plate, a sheet of paper, a layer of composition, and so on, are pressed together, brought into a boiler, and there submitted to a temperature of 266° to 285° F. for two and a half hours. The packages are then taken from the boiler and each plate, with the paper covering it on both sides, is tightly compressed on both sides by passing it through two plates heated by steam, and then again submitting it to the temperature for two hours. The plates, when cool, are pumiced, and are then ready for use.

Black Lithographic Ink.

Wax,	10	ounces.
Shellac,	8	"
Mastic,	5	"
Pure Tallow,	4	"
Hard Tallow Soap,	4	"
Venetian Turpentine,	$\frac{1}{2}$	ounce.
Lampblack,	$2\frac{1}{2}$	ounces.

Mix the ingredients well together by melting, and add the Lampblack last.

Muller's Fluid.

Bichromate of Potassa,	400 grains.
S. of Soda,	160 "
Water,	2 pints.

Mix and filter. This solution is much used by histologists for preparing specimens for microscopic demonstrations.

Ethereal Tincture of Conium.

Powdered Conium Leaves,	1 Troy ounce.
Ether of sp. gr. 0.758,	5 " ounces.

Exhaust the drug by percolation. Pure ether should not be employed, but a mixture of ether with sufficient alcohol to form a liquid of the specific gravity 0.758 to 0.760, as above mentioned.

Chromographic Ink.

Aniline Violet,	20 grains.
Alcohol,	1 drachm.
Glycerine,	$\frac{1}{2}$ "
Water,	1 ounce.

Mix and dissolve.

White Catarrh Snuff.

Powdered White Hellebore,	2 drachms.
Powdered Orris Root,	1 drachm.
Rice Powder,	12 drachms.
Hoffman's Balsamic Mixture,	20 drops.

Mix.

Fruit Syrup.

Raspberry, Strawberry and Cherry Syrup of the German Pharmacopæia have to be made by bruising the fruit and letting the marc and juice ferment, after which the juice is strained off and filtered. A better and safer way is to add at once to the freshly bruised fruits 5 to 6 per cent. of Alcohol, to let the whole stand for some days, and decant and filter. Lastly, boil up once, to remove the greater part of the Alcohol. Syrups made with Alcoholic juice prepared as above, retain, in a remarkable degree, the odor of the fresh fruits.

Catarrh Cure for the Throat.

Sulphate of Quinidia,	9 grains.
Sulphate of Cinchonidia,	9 "
Powdered Tragacanth,	12 "
Powdered Marshmallow Root,	6 "
Powdered Gentian,	6 "
Powdered Red Sandal Wood,	2 "
Glycerine,	6 "
Muriatic Acid,	6 "

Mix and divide into 24 pills. Dose, 5 to 6 pills at bedtime, and 3 pills every two hours during the day. As soon as the first symptoms of catarrh appear, such as dry coughing, the patient should take 6 of the pills, then 2 pills every hour during the day, and twice, five pills within two hours before going to bed.

Universal Carbolic Composition.

The following mixture will be found an excellent preparation. It keeps sores clean, kills lice, cures scabs and itch, keeps off flies and mosquitoes from animals. Of course it will have to be diluted properly.

Ordinary Benzoin,	100	parts.
Aloes,	50	"
Crude Salycilic Acid,	25	"
Oil of Spike,	50	"
Oil of Star Anise,	10	"
Alcohol,	1000	"
Crude Oleic Acid,	100	"
Caustic Soda,	60	"
Borax,	25	"
Water,	500	"
Crude Carbolic Acid,	3000	"

Rub the Benzoin, Aloes and Salicylic Acid to a fine powder, and add them to the essential oils dissolved in Alcohol. After a day's maceration, add to the mixture the Oleic Acid, the Soda and the Borax dissolved in the water, and lastly the Carbolic Acid. Shake the whole well for half an hour, and after one week's maceration in a cold place, decant the clear liquid. For use, shake well with twice its bulk of water, and add one hundred to one hundred and twenty times its bulk of water, stirring thoroughly. For scab and itch dilution, with only thirty or forty times its bulk is necessary.

Artificial Koumyss.

Condensed Milk,	100	parts.
Water,	1000	"
Lactic Acid,	1	part.
Citric Acid,	$\frac{1}{2}$	"
Best Jamaica Rum,	15	"

Saturate the mixture with Carbonic Acid, fill it in bottles, and let them stand first for a few days in a moderately warm room, and then keep them in the cellar.

Improved Collodion Styptic:

Collodion,	100	parts.
Carbolic Acid,	10	"
Tannin,	5	"
Benzoic Acid,	5	"

This preparation has a dark brown color; leaves, after evaporation, a tightly adhering film; coagulates the blood instantaneously to a crusty mass, and a wound, under this covering, heals in a very short time.

Iodoform.

Oil of Turpentine dissolves 4 per cent. of Iodoform.

Lavender	"	7	"	"	"
Cloves	"	8	"	"	"
Lemons	"	9	"	"	"
Rosemary	"	9	"	"	"
Cassia	"	14	"	"	"

Petroleum Ether dissolves 1 per cent. and Benzole $1\frac{1}{2}$ per cent. of Iodoform, both solutions assuming a rose color in a short time.

Ink Powder in Capsules.

(Carmine.)

Eosine,	40 parts.
Lunar Caustic,	3 “
Gelatine,	4 “

The substances are separated and converted into fine powder, mixed, and the mixture placed in the capsules. Each capsule contains about 15 grains of powder. It is dissolved in a corresponding quantity of pure water, requiring about one hour for solution.

Ink for Writing on Glass.

By rubbing up equal parts of Lampblack and iron scales with strong gum mucilage, an ink is obtained which can be used for writing on glass.

Indestructible Ink for Writing on Glass.

An ink has recently been brought into the market of the United States with which writing can be etched on bottles, etc. With the exception that it corrodes the pen, it answers the purpose very well. The ink consists of Ammonia Fluoride, Heavy Spar, and Sulphuric Acid. The Sulphate of Baryta seems to act as an absorbent and to prevent the running of the ink.

St. Germain Tea.

This well known tea consists of Senna leaves previously treated with Alcohol and dried Elder flowers, Fennel, Anise seeds and Cream of Tartar. There is this drawback to the mixture, that the Cream of

Tartar, within quite a short time, separates, and most of it settles at the bottom. This was often remedied at the time of dispensing, but then the separation was only shifted from the drug store to to the house of the patient. A great improvement may be made by mixing the Cream of Tartar with sufficient Simple Syrup to form a soft paste, which is then immediately rubbed with the Elder flowers and dried.

Mannate Lemonade.

One ounce of Mannate is dissolved in ten ounces of hot water, and sufficient lemon juice is added to impart a very agreeable laxative. Mannate is not difficult to prepare. It is obtained by simply dissolving Manna in hot water, decolorizing, filtering and crystallizing. Flake Manna yields about 40 per cent., and Manna, in short, about 30 to 32 per cent. It must be recollected that old Manna is more laxative than the fresh article.

India Rubber Plasters.

Virgin Rubber,	1 pound.
Pitch,	8 ounces.
Thus,	8 "
Capsicum Powder,	50 grains.

Mix.

Dr. Thompson's Solution of Phosphorus.

Phosphorus,	1 drachm.
Absolute Alcohol,	5 fl. drachms.
Glycerine,	12 " "
Alcohol,	2 " "
Essence of Peppermint,	40 minims.

The Phosphorus is first to be dissolved in the Absolute Alcohol with the help of a gentle heat. The Glycerine and the Alcohol, previously warmed, are next to be added, and lastly, the Essence of Peppermint. Each fluid drachm of the mixture very approximately contains one-twentieth of a grain of pure Phosphorus. The dose, as a tonic, from one-hundredth to one twenty-fifth of a grain of Phosphorus, and from one-twelfth to one-eighth of a grain when a stimulant is desired.

Barbadoes' Essence.

Oil of Lemon,	25 drops.
Oil of Bergamot,	25 "
Oil of Cinnamon,	6 "
Oil of Cloves,	6 "
Oil of Nutmeg,	6 "
Rectified Spirits,	1 gallon.

Shake the mixture thoroughly and filter.

Extract of Anise Seed.

Anise Seed Oil,	2 drachms.
Badian Seed Oil,	1½ "
Rectified Spirits,	2 gallons.

Mix, and dilute the solution in one-half gallon of water.

A Genuine Granular Citrate of Magnesia.

Acid Citric, pulv.,	15 ounces.
Soda Bicarb.,	20 “
Magnesia Carb., powd.,	6 “
Sacra Alba, pulv.,	8 “
Oil of Lemon,	1½ drachms.
S. V. R.	

Aqua of each sufficient.

Mix together intimately the Carbonate of Magnesia and 12 ounces of the Citric Acid and slightly damp the mixture with water, the later being preferable in the form of spray distributed over the powder, while being stirred, by means of a suitable atomizer. Dry the resulting mixture completely upon a steam pan at 120° F., in such a manner, with a wooden spatula, that it assumes a finely pulverulent condition. When cold, or nearly so, put it and the sugar together and pass two or three times through a coarse blending sieve. Having previously mixed the remaining acid with the Bicarbonate of Soda, add this to the preceding, sprinkling the whole with two ounces of Spirit, in which the Oil of Lemon has been previously dissolved. Moisten the mixture with more Spirits until it is of the right consistence for being granulated by gently rubbing a No. 8 sieve and quickly drying the preparation in a shallower layer in a steam pan at about 90° to 100° F. When quite dry, shake carefully in a No. 36 or 40 sieve, to get out the fine, and, while yet warm, place the material which does not pass this sieve in dry jars or bottles, with

good corks or air-tight covers. The fine, or powder, which has been sifted out is then to be again slightly moistened with Spirit, granulated, dried, and stored away in a like manner to the bulk previously so treated. This Citrate of Magnesia keeps well. Its aperient and antacid properties are very marked, and, as less of it is used at a time, it is not really so costly.

Bottger's Copying Ink.

Extract of Logwood,	1 ounce.
Crystallized Carb. of Soda,	$\frac{1}{4}$ "
Glycerine of 1.25 S. P.,	1 "
Yellow Chromate of Potash,	15 grains.
Pulv. Gum Arabic,	$\frac{1}{4}$ ounce.
Water,	1 pint.

Dissolve the Logwood and the Soda in the water, then add the other ingredients. This ink does not attack the pens, does not mould, and acquires a deep black color. If it is to be used as a writing ink, leave out the Glycerine and Gum and add 1 ounce of Logwood in 1 pint of water.

Black Copying Ink.

Nut Galls, coarse powder,	33 parts.
Nut Galls, bruised,	33 "
Vinegar,	500 "

Boil the above in 500 parts of water, then strain and dissolve—

Sulphate of Iron,	180 parts.
Alum,	33 "
Water,	250 "

Indigo Carbon.,	1 drachm.
Gum Arabic,	1 ounce.
White Sugar,	2¼ ounces.

Dissolve in boiling water and add together.

ANOTHER.

Extract of Logwood,	1 ounce.
Vinegar,	1 quart.
Sulphate of Iron,	¾ ounce.
Alum,	½ “
Sugar,	1 “

Mix by boiling.

Solution of Bismuth and Hydrastis.

Hydrochlorate of Hydrastine,	
C. P. (white alkaloid),	4 grains.
Ammonia Citrate of Bismuth,	4 “
Distilled Water,	1 fl. ounce.

Mix.

This makes a perfectly clear solution for local use. Internally, the dose of Hydrochlorate of Hydrastine is from $\frac{1}{8}$ to 1 grain. C. P. means that the white soluble alkaloid should be of almost entire purity and entirely free from the associated Alkaloid—a very important particular respecting its therapeutic effect upon delicate mucous structures.

Usually, the solution is reduced for use with two or more parts of distilled water. No aggravation follows its use under any circumstances, many practitioners employing its full strength.

The solution of Hydrochlorate of Hydrastine alone (omitting the Bismuth) may be injected in the vagina or os uteri in the usual manner, or absorbent cotton, saturated with it, may be introduced. Internally, in stomatitis, dysentery, etc., this latter solution may be given in full strength in doses of 10 to 30 drops, or, in aggravating condition, 60 drops, two or three times daily, being reduced with a little water. In fact, the solution of the white alkaloid Hydrochlorate of Hydrastine (either combined or not with the Bismuth) is quite successfully used in all inflammations or ulcerations of the mucous structure, such as the stomach, eye, uterus, bladder, etc.

This salt, being very hygroscopic, it is advisable that it should be ordered in bottles of comparatively small amounts, depending on quantity dispensed, to avoid frequent exposure to the atmosphere; and it will retain its powdered condition if care is taken to push the stopper well down in the bottle after dispensing.

Soluble Extract of Lemon.

Oil of Lemon,	1¼ fl. ounces.
Carbonate of Magnesia;	1½ “
Alcohol,	12 “
Water, sufficient to make	2 pints.

Dissolve the Oil of Lemon in the Alcohol and rub it with the Carbonate of Magnesia in a mortar; pour the mixture in a quart bottle, and fill the bottle with water; allow to macerate for a week or

two, shaking every day; then filter through paper, adding enough water through the filter to make two pints. This extract is about one-half the strength of concentrated extract of lemon, and makes a clear mixture with syrup or aqueous liquids. It is mainly used for flavoring soda water, but may be put up and sold as Extract of Lemon. Those who wish to put up a cheap Extract of Lemon for jobbing trade can dilute this Extract to any extent with water, mixed with 25 per cent. of Alcohol. The best coloring for this Extract is fustic wood, added after it is filtered.

Aromatic Spirits.

Orange Peel, fresh and deprived of the inner white portion,	8 av. ounces.
Lemon Peel, fresh,	2 "
Coriander, bruised,	2 "
Oil of Star Anise,	16 minims.
Deodorized Alcohol, suf. to make	1 gallon.

Macerate the solids during four days with 1 gallon of the Alcohol, then add the Oil of Star Anise, filter, and pass enough Alcohol through the filter to make the whole measure one gallon.

Indian Oil.

Chloroform,	2 fl. ounces.
Tincture of Capsicum,	2 " "
Oil of Hemlock,	1 " "
Sulph. Ether,	1 " "
Oil of Wintergreen,	1 " "
Oil of Origanum,	2 " "

Mix.

Cologne Oil.

Oil of Rosemary Flowers,	8 ounces.
Oil of Bergamot,	8 "
Oil of Orange (Portugal),	6 "
Oil of Lemon,	4 "
Oil of Cedrat,	4 "
Oil of Neroli (petals)	4 "
Oil of Lavender,	2 "
Oil of Cloves,	2 "
Alcohol, 95 per cent.,	5½ pints.

This Oil or concentrated essence may be made to the desired strength by further addition of Alcohol. Four ounces of this essence in 7 pints of Alcohol and one pint of Orange Flower Water will make a good Cologne water.

Ink for Rubber Stamps.

Dissolve 1 ounce of Borax in 18 ounces of water, and boil with 2 ounces of Shellac until the gum is nearly dissolved. Filter, and color with lampblack, reducing to a proper consistence for use with the stamp by means of mucilage of acacia. If the ink dries too fast, add a little Glycerine.

Ayer's Cherry Pectoral.

Syrup Wild Cherry,	6 drachms
Tincture Blood Root,	3 "
Syrup Squills,	3 "
Spirits Nitre,	2 "
Wine of Antimony,	3 "
Wine of Ipecac,	3 "
Acetate of Morphia,	2 grains.
Oil Bitter Almonds,	2 drops.
Alcohol,	1 drachm.
Simple Syrup,	12 ounces.

Scott's Emulsion of Cod Liver Oil.

Cod Liver Oil,	8 fl. ounces.
The yolk of 2 eggs.	
Tragacanth, powdered,	16 grains.
Elixir of Sacharine,	1 fl. drachm.
Simple Tinct. Benzoin,	1 " "
Spirits of Chloroform,	3 " drachms.
Oil Bitter Almonds,	8 drops.
Distilled Aqua,	Q. S. for 16 ounces.

Manipulation: Measure out 5 fluid ounces of aqua that is distilled; place the Tragacanth in a mortar, and triturate with a little Cod Liver Oil; then stir this very briskly, adding water as the mixture thickens; when at a suitable consistence add remainder of water and oil with care, alternately; keep on stirring all the time; transfer to a bottle; add Elixir, Sacharine, Tincture Benzoin, Spirits of Chloroform, and Oil of Almonds, previously mixed; shake well, and add distilled water.—Quantity to make 16 fluid ounces.

Fellows' Syrup.

.Quinine (alkaloid),	20 grains.
Strychnia,	1 grain.
Hypophosphorus Acid, (30 %),	2 fl. drachms.
Strong Solution Hypophosphite Iron,	3 " ounces.
Dissolve, and then add:	
Hypophosphite of Calcium,	80 grains.
Hypo-Manganese,	40 "
Hypo-Potassium,	40 "
Dissolve. Filter, and add syrup to make 1 pint, Imperial measure.	

PART III.

MISCELLANEOUS.

Wine of Calisaya.

Fluid Extract Calisaya,	1½ ounces.
Simple Elixir,	4 “
Sherry Wine to make,	1 pint.
Mix.	

Wine of Cinchona.

Sulphate of Cinchonidia,	12 grains.
Sulphate of Quinine,	5 grains.
Sherry Wine,	12 ounces.
Simple Elixir to make,	1 pint.
Dissolve Sulphates in Wine ; add Elixir, and filter.	
Each fluid drachm represents five grains Calisaya Bark.	

Aromatic Wine.

Worm Wood (ground),	2 drachms.
Peppermint,	2 “
Rosemary,	2 “
Thyme,	2 “
Hyssop,	2 “
Sage,	2 “
Lavender,	2 “
Sweet Majoram,	2 “
Port Wine,	2 pints.
Mix.	
Macerate fourteen days, and filter.	

Aromatic Sugars.

Powdered White Sugar,	6 ounces.
Volatile Oil,	$\frac{1}{2}$ ounce.

Mix.

Any of the flavoring oils may be used, such as Cinnamon, Lemon, Anise etc. Useful for flavoring powders, mixtures etc.

Glycerate Tar.

Pine Tar, (pure)	1 ounce.
Carbonate, Magnesia,	1 “
Glycerine,	4 ounces.
Alcohol,	2 “
Aqua,	10 “

Mix.

Dissolve Tar in Alcohol. Reduce Magnesia to powder and add Tar and Alcohol to Magnesia. Triturate thoroughly; add Glycerine and Water to make one pint, and filter.

Improved Styptic.

Collodion,	100 parts.
Carbolic Acid,	10 “
Tannin,	5 “
Benzoic Acid, (from the gum)	5 “

Mix the ingredients in the order above written until perfect solution is effected. This preparation has a brown color, and leaves, on evaporation, a strongly adherent pellicle. It instantly coagulates blood, forming a consistent clot, and a wound rapidly cicatrises under its protection.

“Monthly Review”

Liver Regulator.

Senna Alex.	6 drachms.
Podophyllin,	1½ “
Leptandria, Virg.	1½ “
Virginia Snake Root,	3 “
Ginseng,	1½ “
Alcohol,	3 ounces.
Boiling water to make	1 pint

Dose, teaspoonful to one-half wineglassful as needed.

For all bilious Diseases or Disorders arising from Torpidity of the Liver, Dyspepsia, Bilious Headache, Costiveness, Sour Stomach, Jaundice, Heartburn, Nervousness, Restlessness.

Formula for Summer Complaint.

Fluid Extract of Judas Tree,	½ ounce.
Bismuth Sub. Nit.	½ “
Glycerine,	1 “
Simple Elixir,	1½ ounces.

Mix.

Dose, one-half teaspoonful for a child two years old.

Therapeutic Gazette.

Sandalwood Mixture.

Oil of Sandalwood,	½ ounce.
“ “ Cubebs,	2 drachms.
“ “ Copaiba,	2 “
Spirits of Juniper,	4 ounces.

Mix.

Teaspoonful three times a day.

Celery Compound.

Celery Seed,	384 grains.
Catnip Herb,	640 “
Chamomile, German,	384 “
Alcohol diluted, sufficient.,	
Simple Elixir to make,	1 pint.

Percolate drugs with diluted Alcohol till four ounces is obtained, then add Elixir and filter.

Each fluid drachm contains three grains each of Celery and Chamomile, and five grains Catnip Herb.

Dose, for children teething, from ten to sixty drops, according to age.

Liquid Pancreatin.

Pancreatine,	384 grains.
Water,	5 ounces.
Glycerine,	3 “
Dissolve and filter.	

Druggists' Circular.

An Elegant Formula for Prescribing Gallic Acid

Acid Gallic,	1 drachm.
Glycerine,	1 ounce.
Aqua,	5 ounces.
Mix.	
Dose tablespoonful,	

Headache Liniment.

Compound Soap Liniment,	2 ounces.
Chloroform,	1 ounce.
Aqua Ammonia,	$\frac{1}{2}$ ounce.
Mix.	

Improved Itch Ointment.

Vaseline or Lard,	12½ ounces.
Flowers Sulphur,	2 “
Bicarbonate Potass,	1 “
Oil Bitter Almonds,	1 drachm.

Milk and Lime Water.

Lime Water,	3 ounces.
Sweet Milk,	6 “
Table Salt,	10 grains.

Mix.

Dose, a wineglassful two or three times a day.

This is a valuable remedy in Gastric Irritability, Dyspepsia, and even Cholera. It is also a digestible and nourishing food suitable for almost any invalid.

Hunter's Red Drops.

Corrosive Sublimate,	10 grains.
Muriatic Acid,	12 drops or q. s.

Triturate in glass mortar, and add gradually Spirits of Lavender Comp. one ounce.

Mix.

Dose, five to twenty drops in wine, or spirits and water.

A powerful alterative in Syphilitic diseases.

Mustard Oil Liniment.

Crude Mustard Seed Oil,	16 ounces.
Ethereal Oil of Mustard,	30 to 40 drops.
Aqua Ammonia,	4 ounces or .q s.

To form into a mixture of a soapy consistency. Mix and bottle in broad mouthed vials.

Milburn's Mixture.

Precipitated Prep. Chalk,	2 drachms.
Loaf Sugar.	2 “
Powdered Gum Arabic,	2 “
Mint Water (green preferred),	4½ ounces.
Laudanum,	10 drops.
Spirits of Lavender Compound,	2 drachms.
Simple Syrup	1½ ounces.
Tincture Kino,	1 ounce.

Mix.

Useful in loose bowels of children, and can be given to them after each alvine evacuation, regardless of number.

Dose, from half to a tablespoonful. Shake well before using.

Thielemann's Swedish Cholera Mixture.

Oil of Peppermint,	4 drachms.
Alcohol,	4 ounces.
Wine of Opium and Saffron,	1½ “
Tincture of Ipecac,	4 “
Tincture of Valerian,	6 “

Dissolve Oil in Alcohol, add Wines and Tinctures, and filter.

Dose, one-half to teaspoonful.

Guaiac Mixture.

Guaiac Resin,	3 drachms.
White Sugar,	4 “
Gum Arabic,	2 “
Cinnamon Water to make,	1 pint.

Triturate Guaiac and Sugar together, add Gum, and lastly gradually add Cinnamon Water.

Compound Powder Catechu.

Catechu, powdered,	1 ounce.
Kino, “	4 drachms.
Rhatany, “	4 “
Cinnamon, “	3 “
Nutmeg, “	2 “
Camphor, “	1 drachm.
Gum Arabic, “	6 drachms.

Mix.

Useful in diarrhea, etc.

Dose, five to ten grains.

Cascara Bitters.

Cascara Sagrada,	1 ounce.
Gentian Root,	1 “
Dandelion,	$\frac{1}{2}$ “
Chamomile Flowers,	$\frac{1}{2}$ “
Orange Peel,	$\frac{1}{2}$ “
Stillingia Root,	$\frac{1}{2}$ “
Cloves,	$\frac{1}{4}$ “
Alcohol,	8 ounces.
Syrup,	4 “
Water, Q. S.	

Macerate drugs with Alcohol and Water, and after standing fourteen days, percolate till twelve ounces of percolate is obtained. Add Syrup, and if needed again filter.

Dose, tablespoonful to one-half wineglassful.

A remedy for Dyspepsia, Indigestion, Ague, Constipation, etc.

Spice Bitters.

Poplar Bark,	4 ounces.
Bayberry,	4 “
Golden Seal,	4 “
Colombo Root,	2 “
Bitter Root,	2 “
Cloves,	1 ounce.
Ginger,	1 “
Cayenne,	$\frac{1}{2}$ ounce.

Pulverize and mix with same amount of Sugar. Sift fine. Dose one-half to one teaspoonful in wine or water; or, if preferred, it can be put in wine or liquor and let stand for some time, and then decant clear, or filter.

Old Fashion Bitters.

Cinnamon,,	$\frac{1}{2}$ ounce.
Cloves,	$\frac{1}{2}$ “
Chamomile, Flowers,	$\frac{1}{2}$ “
Gentian,	1 “
Orange Peel,	1 “
Rhubarb,	$\frac{1}{4}$ “
Colombo,	1 “
Peruvian Bark,	$\frac{1}{4}$ “
Whiskey,	$\frac{1}{2}$ gallon.

If too strong add more Whiskey, let stand several days and filter. Dose, tablespoonful before meals.

Blackberry Cordial.

Blackberry Juice,	6 pounds.
Refined Syrup,	4 “

Mix and add Brandy one pint, saturated with Cinnamon half ounce, Nutmegs two drachms, Cloves and Allspice, each one drachm.

Day's Pain Banisher.

Alcohol,	6 pints.
Red Pepper,	3 ounces.
Gum Camphor,	2½ "
Oil of Origanum,	1½ "
Tincture of Opium	1½ "
Yerba Santa,	1 ounce.
Sul. Ether,	6 ounces.
Aqua,	3 pints.
Peruvian Bark,	¼ pound.
Ginger,	¼ ounce,
Chloroform,	1 drachm.
Sarsaparilla,	¼ pound.

Mix.**Howlet's Ague Pills.**

Quinine,	2 drachms.
Powdered Gum Myrrh,	1 drachm.
" Capsicum,	1 "

Make into sixty-four pills.**Ingall's Pills.**

Pulverized Gamboge,	50 grains.
Aq. Ext. Aloes Socet.	50 "
Podophyllin,	50 "

Mix and make one hundred pills.**Perry's Tonic Elixir.**

Cincho Quinine,	1 ounce.
Diluted Sulphuric Acid,	Q. S.
Fluid Ext. Leptandrin,	4 ounces.
Fluid Ext. Podophyllin,	4 "
Simple Elixir to make,	60 "

Mix. 33

Perry's Compound Sarsaparilla Blood Purifier.

Turkey Corn Root,	2 pounds.
Stillingia “	2 “
Sarsaparilla, “	2 “
Yellow Dock “	2 “
Sassafras Bark,	1 “
Simple Syrup,	2 gallons.
Diluted Alcohol,	32 pints.
Water,	Q. S.
Iodide Potassa,	2 pounds.

Percolate Roots and Bark with Diluted Alcohol, add Syrup, then add Iodide Potass. Dissolve in water to make six gallons.

Syrup of Iodide of Lime.

Iodine,	16 grains.
Lime Water U. S. P.,	12 ounces.
White Sugar,	10 “

Rub Iodine in a glass mortar with the lime water, after which it becomes colorless, then add sugar and dissolve without heat.

Dose, one teaspoonful.

Gowland's Freckle Lotion.

Sweet Almonds, (blanched)	1 ounce.
Bitter Almonds, “	$\frac{1}{2}$ “
Corrosive Sublimate,	15 grains.
Alcohol,	$2\frac{1}{2}$ drachms.
Water to make	1 pint.

Make an emulsion of the Almonds with the water and strain, add the mercurial salt dissolved in the Spirit; lastly add water to make the whole measure one pint.

Poor Man's Plaster.

Beeswax,	1 ounce.
Tar,	3 ounces.
Resin,	3 "

To be melted together and spread on paper or muslin.
D. C., April, '71.

Citric Acid Freckle Lotion.

Citric Acid,	3 drachms.
Rose Water,	12 ounces.

Mix.

Apply with sponge.

Sulphur Soap.

White Castile Soap (moist,)	$\frac{1}{2}$ pound.
Flower of Sulphur,	1 ounce.
Alcohol,	1 "

Beat the whole to a smooth mass in a mortar, press in molds and let dry. Flavor accordingly to taste.

Liquid Rennet or Essence of Rennet.

Take fresh Rennet cut small,	12 ounces
Common Salt,	3 "

Knead them together and leave in a cool place for six weeks, then add—

Water,	18 ounces.
Alcohol diluted,	2 "

Digest twenty-four hours, and if you wish, color the liquid with burnt sugar.

Two teaspoonfuls will curdle a pint or more of milk.

Extract of Malt and Colts-foot.

Colts-foot Leaves,	3 ounces.
Spotted Lungwort.	3 “
Liquorice,	2 “
Alcohol Diluted,	Q. S.
Stoned Raisins,	1 pound.
Extract of Malt to make	3 gallons.

Macerate the drugs and Stoned Raisins for three days in Diluted Alcohol, then transfer to a percolator, and obtain one pint of percolate, then add the Extract of Malt.

Mix.

Dose, one tablespoonful to half wineglass of water.

French Cold Cream.

A French pharmaceutical contemporary gives the following formula for the preparation of this cosmetic, which is said to be an exact imitation in its properties of a product of unknown composition, highly esteemed:

Quince Mucilage,	20 ounces.
Almond soap,	$\frac{1}{2}$ ounce.
Stearic acid,	5 ounces
Glycerine,	1 ounce.

It is stated that this preparation is not liable to become rancid, which is a serious drawback with many inferior preparations given in our text-books.

Monthly Review.

Oil Stone.

Oil of Seneka,	1 pint.
Spirits of Turpentine,	3 pints.
Barbadoes Tar,	1 pint.

Mix.

Angustura Bitters.

Gentian,	}	of each	2 drachms.
Calisaya Bark,			
Canada Snake Root,			
Liquorice Root,			
Dandelion Root,			
Allspice,			6 drachms,
Angustura Bark,	}	of each	5 "
Cardamom,			
Rhubarb,			
Galangal,			2 "
Orange Peel,			1 ounce.
Caraway Seed,			2 drachms.
Cinnamon,			2 "
Nutmegs,			2 "
Cloves,			$\frac{1}{4}$ drachm.
Coriander Seed,			2 drachms.
Catechu,			2 "
Worm Wood,			2 "
Virginia Snake Root,			2 "
Red Saunders,			1 ounce.
Mace,			1 drachm.
Curcuma,			$\frac{1}{2}$ ounce.
Alcohol, 65° sufficient to make			1 $\frac{1}{2}$ gal.
Honey,			8 ounces

The above may be employed as a bitters in Dyspepsia, Diarrhea, etc., and as a general good bitters.

Rose Pectoral.

Syrup Wild Cherry,	7 pints.
Paregoric,	1 "

Mix.

Used in coughs colds etc.

Dose, teaspoonful.

English Hop Bitters.

Calamus Root,	1 ounce.
Orange Peel,	2 ounces.
Saxifraga Root,	1 “
Hops,	$\frac{1}{2}$ “
Alcohol,	16 ounces.
Water,	94 “
Sugar,	4 “

Macerate the drugs in Alcohol and water for seven days, then percolate, adding sufficient water to make one quart; lastly add the Sugar and shake well until dissolved.

Carter's Citrus Canadensis.

Fluid Extract of Blood Root,	8 ounces.
“ “ “ Lobelia,	6 “
“ “ “ Liquorice,	8 “
Tr. Opii,	24 “
Oil of Lemon,	2 “
Alcohol,	80 “
Tr. Capsicum,	6 “
New Orleans Syrup,	5 gallons.

Add the whites of five eggs to Syrup, and bring to a boil; cut Oil of Lemon with Alcohol, and add ingredients.

Toothache Drops.

Chloroform,	3 ounces.
Creosote,	1 ounce.
Sul. Morphia,	$\frac{1}{2}$ drachm.

Mix the Morphia with the Creosote, let stand until Solution is clear, then add the Chloroform.

Compound Fluid Extract Buchu.

Fluid Extract Dandelion,	3 ounces..
Fluid Extract Buchu,	4 “
Fluid Extract Juniper Berries,	3 “
Fluid Extract Pareira Brava,	2 “
Fluid Extract Stone Root,	2 “
Acetate Potash,	2 “

Mix.

Dose, one-half to one teaspoonful.

For Diseases of the Urinary and Genital Organs.

Lord's Chalk Mixture.

Tinct. Kino,	1 ounces.
“ Camp. Opium,	1 ounce.
“ Catechu,	1 drachm.
“ Opium,	1 “
Spts. Lavender Comp.	$\frac{1}{2}$ ounce.
Syrup, Simple,	$\frac{1}{2}$ “
Prepared Chalk,	$1\frac{1}{2}$ “
Mucilage Acacia,	8 ounces.

Mix.

Dose, tea to tablespoonful.

McKinzie's Ointment

Powd. Sulphate of Zinc,	4 ounces.
Liquid Storax,	1 “
Lard,	16

Mix by means of heat and trituration over a water bath about an hour.

A useful application for tetter and scald head. Apply night and morning, first washing the spot with castile soap and warm water.

Vitalizer.

Yellow Root,	1	drachm.
Wild Cherry Bark,	2	"
Mandrake Root,	$\frac{1}{4}$	drachm.
Leptandria,	$\frac{1}{2}$	ounce.
Solid Extract Nux Vomica,	16	grains.
Oil Caraway,	} of each	2 drops.
" Cinnamon,		
" Wintergreen,		
Balsam Peru,	$\frac{1}{2}$	drachm.
Nutmegs.	1	drachm.
Indian Turnip,	15	grains.
Galangal,	2	drachms.
Madeira Wine,	} of each	1 pint.
Brandy,		

Grind the drugs moderately, add oils and Balsam Peru to the Brandy, let stand forty-eight hours, then add other ingredients, macerate fourteen days and filter.

For Dyspepsia and Liver complaint.

Dr. Brown Sequard's**Epilepsy.**

Soda Bromide,	2	drachms.
Potass. Bromide,	2	"
Ammonia Bromide,	2	"
Potass. Iodide,	$\frac{1}{2}$	drachm.
Ammonia Carbonate,	1	"
Tincture Colombo,	$1\frac{1}{2}$	ounces.
Aqua,	8	"

Mix.

Dose—full dose one and one-half teaspoonfuls before each meal, and three teaspoonfuls at bed-time.

Owen's Compound Extract Buchu.

Buchu Leaves in coarse powder,	12 ounces.
Uva Ursi “ “ “	4 “
Alcohol,	3 pints.
Water,	6 “ or Q. S.

Treat the Leaves by maceration and displacement, first with a portion of the Alcohol, and then with the remainder mixed with the water; evaporate the resulting liquid by a gentle heat to three pints and to this add—

Sugar, 2½ pounds.

Continue the heat till the sugar is dissolved, and after removing from the fire add—

Oil of Cubebs,
 “ of Juniper of each, 1 fluid drachm.
 Spirits of Nitric Ether, 12 “ ounces.

Previously mixed. Mix the whole together with a portion of the Alcohol, and shake well.

Dose, teaspoonful.

Belfast Ginger Ale Powder.

Powdered White Sugar,	16 ounces.
“ Bicarbonate of Soda,	3½ “
“ Citric Acid,	4½ “
Concentrated Essence of Ginger,	1½ “
“ “ “ Cayenne,	4 drachms.
“ “ “ Lemcn,	40 drops.

Dry the Soda, Acid and the Sugar very carefully; before drying the Sugar, incorporate with it the Essences thoroughly, to which a small quantity of Caramel may be added as coloring.

Blackberry Cordial Aromatic.

No. 1-Blackberry Juice,	2 pints.
French Brandy,	$\frac{1}{2}$ pint.
Oil of Bitter Almond,	4 drops.
Essence of Cinnamon,	15 “
Essence of Nutmegs,	$\frac{1}{4}$ ounce.
Essence of Lemon,	20 drops.
No. 2-Take White Sugar,	5 pints.
Water,	2 “
Bruised Ginger,	1 ounce.
Cloves,	$\frac{1}{2}$ ounce.
Calamus Root.	$\frac{1}{2}$ ounce.
Nutmegs,	one.

Boil the Ginger, Cloves, Calamus, and Nutmeg in the water, strain, add sugar and dissolve and add No. One.

Iodized Carbolic Acid.

Iodine Resublimed,	$\frac{1}{2}$ ounce.
Carbolic Acid,	1 “
Oil Wintergreen,	Q. S.
Glycerine,	$2\frac{1}{3}$ ounces.

Useful in Uterine diseases and also skin troubles particularly those attended with Itching.

Conklin's Salve.

Rosin,	12 ounces.
Wax,	1 ounce.
Tallow,	1 “
Mutton Tallow,	1 “

Melt together and pour into cold water. Work with the hands in the water, and when cool enough, form into rolls.

Aerated Messina Lemonade Powder.

Powdered White Sugar,	14 ounces.
“ Bicarbonate of Soda,	3½ “
“ Citric Acid,	4½ “
Concentrated Essence of Lemon,	60 drops.

The powders must be carefully and separately dried at a moderate temperature before mixing and when mixed, must be kept air-tight. A dessertspoonful will make a tumbler of Lemonade.

Plain Messina Orangeade Powder.

Powdered White Sugar,	7 pounds.
“ Citric Acid,	3½ ounces.
Conct. Essence of Orange,	3 drachms.
“ “ “ Cedrat,	1 drachm.

Mix and use as above.

Aerated Saville Orangeade Powder.

Powdered White Sugar.	14 ounces.
“ Bicarbonate of Soda,	3½ “
“ Citric Acid,	4 “
Concentrated Essence of Orange,	60 drops,
“ “ “ Cedrat,	12 “

Mixed and used as above.

Plain Messina Lemonade Powder.

Powdered White Sugar,	7 pounds.
“ Citric Acid,	3½ ounces.
Conct Essence of Lemon,	4 drachms.

Mix and use as before stated.

Plain Soda Powder.

Powdered Bi Carbonate Soda,	8 ounces.
“ Citric Acid,	6½ “

Mix the powders recently dried in a warm mortar and immediately put the mixture in a dry bottle and cork securely. For use, put one teaspoonful into a glass of water and stir till dissolved. By adding a dessert spoonful of raspberry or any other flavoring syrup you have soda water like that dispensed by the druggists.

Manhattan Spruce Beer Powder.

Powdered refined Sugar.	16½ ounces.
“ Bi Carbonate of Soda,	3½ “
“ Citric Acid,	4 “
Conct Essence of Spruce,	1 ounce.
Mixed and used as before.	

G. DUBELLE Ph. D.

Extract Root Beer.

Extract American Sarsaparilla,	10 drachms.
Fluid Extract Prince's Pine,	10 “
“ “ Wintergreen,	4 “
“ “ Licorice,	2 “
Root Beer Flavoring,	1 ounce.
Refined Molasses,	1 gallon.
Water,	9 gallons.

Mix.

Charge in an ordinary soda fountain in the usual manner.

Root Beer.

American Sarsaparilla,	2 pounds.
Spice Wood,	$\frac{1}{2}$ pound.
Guaiac Chips,	1 “
Birch Bark,	$\frac{1}{4}$ “
Ginger,	$\frac{1}{2}$ ounce.
Sassafras,	4 ounces.
Prickly Ash Bark,	$\frac{1}{2}$ ounce.
White Mustard,	1 “
Hops,	1 “

Boil for twelve hours at a moderate heat with sufficient water, so that the remainder shall measure five gallons, to which add—

Tincture of Ginger,	8 ounces.
Oil of Wintergreen,	$\frac{1}{4}$ ounce.
Alcohol,	1 quart.

Or sufficient to prevent fermentation.

To make Root Beer take of the decoction made from the above formula, one quart—

Molasses,	8 ounces.
Water.	$2\frac{1}{2}$ gallons.
Yeast,	4 ounces.

In warm weather the ingredients of root beer should be mixed together the evening before the beer is to be used.

It can be kept in bottles or drawn by a common beer pump. We can give no instructions which will enable it to be drawn as you would draw Soda Water, unless you charge it with Carbonic Acid gas in a fountain. Charge as you would Mineral Water.

New Orleans Mead.

Sarsaparilla Root contused,	8 ounces.
Licorice,	8 “
Cassia Bark contused,	8 “
Cloves,	2 “
Coriander Seeds,	3 “
Ginger,	8 “

Boil for fifteen minutes in eight gallons of water and let stand until cold to settle down then strain through flannel rag and add to it in the fountain.

Syrup,	12 pints.
Honey,	4 “
Tincture Ginger,	4 ounces.
Solution of Citric Acid,	4 “

Add enough water to complete ten gallons and charge with gas.

Prof. E. S. WAYNE.

Artificial Cider.

Water,	25 gallons.
Honey,	1 $\frac{1}{4}$ “
Catechu (pure.	6 drachms.
Alum,	1 $\frac{1}{4}$ ounces.
Yeast,	$\frac{1}{2}$ pint.

Ferment for fifteen days in a warm place, then add

Bitter Almonds,	2 ounces.
Cloves,	2 “
Whiskey,	6 pints.

Burnt Sugar to color.

If Acid should be in excess add honey or sugar. If too sweet add cider vinegar to suit the taste.

Root Beer Flavoring.

Oil of Wintergreen,	4 drachms.
“ “ Sassafras,	2 “
“ “ Cloves,	1 “
Alcohol,	4 ounces.
Mix and dissolve.	

Cider Preservative.

To each barrel of cider add one ounce Salicylic Acid and bung up tight. It will keep it perfectly sweet and is far superior to any preparation of Lime.

To Decolorize Liquors.

When stained by cask, a nail, or dropping a bit when boring for a faucet, or other cause, add one quart of new milk to ten gallons, let stand, settle and filter, or filter through Carbonate Magnesia, try the former one first.

Asthma Powder.

Stramonium,	}	1 ounce.
Sage,		
Belladonna,		
Digitalis,		
Potass. Nitrat		

Make a coarse powder.

Mix Nitre with other substances. Take a small amount, place on a plate, ignite the same, covering with a paper cover and inhale. Should it burn too freely dampen the mixture with water.

Colorless Tincture Bromide Iodine.

Iodine,	1 ounce.
Bromine,	4 drachms.
Alcohol,	17 ounces.
Sulphuric Ether,	7 “
Glycerine,	2 “
Bisulphite Soda,	2 “

Dissolve Iodine in the Alcohol, and Bromine in Ether; add Glycerine to the Solution of Bromine carefully. Mix the two Solutions together carefully, and add powdered Bisulphite Soda. Place mixtures aside several days, shaking carefully occasionally when it will become colorless; should it not, add a small quantity of Bisulphite of Soda.

NOTE.—Should it turn red at any time, the addition of a small quantity of the Bisulphite of Soda will bring it to its original color.

Aqua Rose “Fine”

Oil Rose,	12 drops.
White Sugar,	$\frac{1}{2}$ ounce.
Carb. Magnesia,	2 drachms.
Aqua,	2 pints.
Alcohol,	2 ounces.

Add oil to Alcohol, rub with Magnesia and Sugar, add water and filter.

James' Disinfectant Powder.

Copperas,	20 ounces,
White Vitriol,	10 “
Carbolic Acid, (crude)	1 ounce.

Mix.

Glycerine Lotion.

Glycerine,	6 ounces.
Quince Seed,	1 drachm.
Hot Water,	21 ounces.
Alcohol,	5 “
Coloring and flavoring to suit.	

To the Quince Seed add a portion of the hot water. When mucilage is formed, strain, then add balance of water and flavoring.

Aqua Sedative.

Sodium Chloride,	90 grains.
Dissolve in water,	3 ounces.
Then add Water of Ammonia,	3¼ drachms.
Spirits of Camphor,	15 drops.

To be shaken when wanted for use.

This is a favorite remedy in Headache, etc., and is a celebrated French preparation.

Chapped Hands.

Druggists are often called upon for something for chapped hands. Here is a good one.

Acid Carbolic,	30 grains.
Yolk of one Egg,	
Glycerine,	3 ounces.

Mix—form emulsion. A small portion to be rubbed gently upon the affected surface several times a day; wearing a pair of gloves will assist.

Phenol Sodique.

Carbolic Acid,	188 grains.
Caustic Soda,	31 “
Pure Water,	4 ounces.

Dr. WILDMAN.

D. C.

Agata's Disinfectant.

Marble Dust.	1 pound.
Oyster, Cockle, or sea shells of any description, powdered.	
Copperas,	8 ounces.
Carbolic Acid,	1 ounce.
Mix.	

Disinfecting Powder.

Carbolate of Lime, (freshly slacked)	40 ounces.
Marble Dust or fine sand,	2 “
Carbolic Acid Crystals,	3 drachms.
Mix Carbolic Acid with Marble Dust or sand, and then with other ingredients.	

Winchell's Disinfectant.

Copperas,	24 ounces.
Salt, (common),	14 “
Carbolic Acid, (crude)	1 ounce.
Sulphur,	2½ ounces.
Mix.	

Test for Pure Creosote.

Mix sample with pure Glycerine, shake well together, then let stand a short time. If pure the Creosote will not mix with the Glycerine.

Pomade for Freckles.

Citrine Ointment,	1 drachm.
Oil Sweet Almonds,	1 “
Spermaceti Ointment,	6 “
Oil Rose,	3 drops.
Mix well in mortar.	

Moth Powder.

Lupulin,	1 drachm.
Scotch Snuff,	2 ounces.
Camphor Gum,	1 ounce.
Black Pepper,	1 “
Cedar saw-dust,	4 ounces.
Mix thoroughly and strew among the furs or woollens.	

Easy and Rapid Method to powder Shellac for Colored Fires, Varnishes etc.

One pound of Shellac is warmed with constant stirring with two quarts of water, to which are added two or three ounces of Borax; a clear Solution of Shellac is the result. If, now two ounces of Hydrochloric Acid be added the Shellac is precipitated in a pulverulent condition, this precipitate after being well stirred is poured upon a cloth and well washed with water, and after drying, is found to be a very fine powder, well suited for fire works or the rapid making of Varnishes.

Disguising the Taste of Epsom Salts.

Epsom Salts,	6 drachms.
Water,	1½ ounces.
Essence of Mint,	2 to 6 drops.
Mix.	

Stamping Powder

For use in Stamping any desired pattern upon goods for needle work, embroidery, etc. Draw pattern upon heavy paper, and perforate with small holes all the lines with some sharp instrument, dust the powder through, remove the pattern and pass a warm iron over the fabric, when the pattern will become fixed. Any desired color can be used, such as Prussian Blue, Chrome Green, Yellow, Vermilion, etc.

Fine White Rosin.	2 ounces.
Gum Sandarac.	4 “
Color,	2 “

Powder very fine, mix, and pass through a sieve.

Ladies' Shoe Dressing.

Extract Logwood (best),	1 ounce.
Bichromate Potash,	1 drachm.
Yellow Prussiate Potash,	1 drachm.
Borax Powdered,	1½ ounce.
Aqua Ammonia,	1 ounce.
Shellac,	8 ounces.
Water,	½ gallon.

Dissolve Extract in hot water, heating the liquid to nearly a boiling point. Then add the Chromate and Prussiate of Potash. After a deep blue has developed, add Borax; when dissolved, add the Shellac and Ammonia. Solution of Logwood must be heated to nearly a boiling point, before adding Salts of Potash.

Harness Blacking.

Neatsfoot Oil,	1 pint.
Beeswax,	2 ounces.
Ivory Black,	1 ounce.
Mix, by melting with gentle heat.	

Paste for Labeling on Tin.

Take paste made from Gum Tragacanth with addition of a small portion of the Oil of Wintergreen.

First be careful to remove the film of grease from the tin by a solution of Caustic Soda (ten of water to one of Soda) applied to the spot by a rag upon which you wish to affix the label, and drying with another rag.

To Restore Color to Cloth.

When color from a fabric has been destroyed by acids, Ammonia is used to neutralize the same. An application of Chloroform will in almost all cases restore the color, Chloroform will remove paint when other things have failed.

Machine Oil.

Put Lead into pure Olive Oil and let stand in the sun till a white deposit is found, then decant off the clear liquid.

To Improve Coal Oil Light.

Add one-eighth to one-fourth amount of common Salt.

Makes light more brilliant, prevents smoking and keeps wick clean. D. C.

Artificial Venice Turpentine.

Resin, }
Turpentine, } Equal parts.

Melt the Resin, remove from the fire and add Turpentine.

Morgan's Elastic Plaster.

Take thin sheet-rubber and apply to it a coating of Boyton's Plaster, namely, lead-plaster, 94 parts, resin, 6 parts.

This plaster has the advantage of accommodating itself to all movements of the muscles without curling up or becoming stiff, and has been used with good advantage as a dressing to sores and wounds.

Bronzing Liquid.

Ten parts of aniline red and five parts of aniline purple are dissolved in 100 parts of 95 per cent alcohol, on the water-bath, and the solution, after the addition of five parts of benzoic acid, boiled (for 5-10 minutes) until it has changed its greenish color to light bronze-brown. Applied with a brush upon *leather*, metal or wood, the liquid produces a magnificent bronze coating.

New Remedies.

Tincture of Insect Powder.

A concentrated Tincture of Insect Powder is recommended as an insecticide. It may be prepared by digesting one part of Persian Insect Powder in ten parts absolute Alcohol. It can be applied by an ordinary perfumery atomizer. When thus used in closed rooms, all flies soon drop dead; while scattering it over linen, etc., acts as a protection against fleas and other vermin.

Artificial Sea-water.

Common Salt,	180 grains.
Chloride of Lime,	18 "
Epsom Salts,	120 "
Water,	1 gallon.

Pounce.

Powdered Gum Sandarac,	1 ounce.
" Cuttle Fish Bone,	$\frac{1}{2}$ "

Mix.

The above is used to prevent Ink from spreading after an erasure has been made.

Remedy for Hay Fever.

Into a 4-oz. wide-mouth bottle, half filled with cotton, and having a close stopper, put the following mixture:

Carbolic Acid,	$2\frac{1}{2}$ drachms.
Aqua Ammonia	3 "
Distilled Water,	5 "
Alcohol,	7 "

Inhale through the nostrils.

Black Ink from one Preparation.

Nigrosine,	6 to 10 grains.
Water,	1 ounce.
Mix.	

Chemical Food for Plants.

Sulphate of Ammonia,	4 ounces.
Nitrate of Potash,	2 ounces.
Sugar,	1 ounce.
Mix.	

Add fifty grains of this powder to a gallon of water and apply to the plants once or twice a week.

German Fumigating Paper.

Nitrate of Potass.,	1 ounce.
Distilled Water,	4 ounces.
Dissolve.	

Soak bibulous paper in the Solution and dry it. The fumes of the burning paper are inhaled for Asthma, etc.

French Fumigating Paper.

Unbleached unsized paper	3 $\frac{3}{4}$ ounces.
Nitrate of Potass,	1 ounce and 7 drachms.
Powdered Belladonna,	} of each 1 $\frac{1}{4}$ drachms.
“ Stramonium,	
“ Digitalis,	
“ Lobelia,	
“ Water Hemlock,	
“ Myrrh,	2 $\frac{1}{2}$ drachms.
“ Olibanum	2 $\frac{1}{2}$ drachms.

Used same as above.

Local Anodyne.

Elastic Collodion, 1 ounce.

Muriate Morphia, 15 grains.

Dissolve Salt in Collodion. Spread with a Camel's hair brush over the parts, and place Oil Silk over the spot.

Iodized Collodion.

Iodine, $1\frac{1}{2}$ drachms.

Collodion, 3 ounces.

Mix.

"Sun" Cholera Mixture.

Tincture of Opium, 2 ounces.

Tincture of Camphor, 2 "

Tincture of Capsicum, 2 "

Tincture of Rhubarb, 2 "

Tincture of Peppermint, 2 "

Mix.

Dose, a teaspoonful in water after each evacuation of the bowels.

Compound Liquorice Powder.

German Brustpulver.

Powdered Senna, 2 ounces.

Powdered Liquorice Root, 2 ounces.

Powdered Fennel Seed, 1 ounce.

Washed Sulphur, 1 ounce.

Powdered Sugar, 6 ounces.

Mix them.

Anti Mosquito Fumigating Pastilles.

Charcoal	250 parts
Saltpetre,	30 “
Carbolic Acid,	20 “
Persian Insect Powder,	125 “
Tragacanth,	Q. S.

London Chemist.

A Disinfecting Cologne.

Mix Hydrate of Chloral and Carbolic Acid (the smell of the latter is almost entirely removed), add Spirits of Lavender or ordinary Cologne Water; a pleasant odorous solution results. This with an Atomizer readily saturates an ordinary sized room with the vapor of these valuable Antiseptics.

PART IV.

MISCELLANEOUS.

Pulmonic Syrup.

Wormwood Herb,	1 ounce.
Horehound Herb,	1 "
Catnip Herb,	1 "
Tansy Herb,	1 "
Hyssop Herb,	1 "
Wild Cherry Bark,	1 "
Elecampane Root,	1 "
Comfrey Root,	1 "
Horseradish Root,	$\frac{1}{2}$ "
Black Snake Root,	$\frac{1}{2}$ "
Extract of Licorice,	2 ounces.
Indian Turnip Root,	$1\frac{1}{2}$ "
Gum Arabic,	2 "
Water,	4 gallons.
Brandy,	1 quart.
Essence of Wintergreen,	Q. S. to flavor.

Put the drugs in the water, and simmer till reduced to two gallons; strain and add five pounds of White Sugar; then boil till the Sugar is dissolved, and when cool, add the Brandy and Essence of Wintergreen.

The above is the original formula of a preparation sold by the above name, manufactured in Philadelphia, and has reached an enormous sale throughout the world. We should, however, omit the Cherry Bark, adding the Fluid Extract of Wild Cherry in its stead, after the preparation has cooled, as the heat will drive off the medicinal virtues of the drug.

Clarke's Blood Mixture.

Iodide of Potassium,	64 grains.
Chloric Ether,	4 drachms.
Liquor Potassa,	30 drops.
Water,	7½ ounces.
Burnt Sugar, sufficient to color.	

The Chloric Ether here mentioned is made by dissolving one part, by volume, of Chloroform in nineteen parts, by volume, of Alcohol.

Locock's Pulmonic Wafers.

Lump Sugar,	2 pounds.
Starch,	2 "
Powdered Gum Arabic,	1 pound.

Make into a lozenge mass, with Vinegar of Squills, Oxymel of Squills, and Wine of Ipecac, equal parts, gently evaporated to one-sixth of their weight, with the addition of from four to five ounces of Lactucarium. Divide the mass into half-inch squares, weighing about seven grains and a half each when dry.

Chapman's Copaiba Mixture.

Copaiba,	4 drachms.
Sweet Spirit of Nitre,	4 "
Powdered Gum Arabic,	1 drachm.
Powdered Sugar,	1 "
Compound Spirit of Lavender,	2 drachms.
Tincture of Opium,	1 drachm.
Distilled Water,	4 ounces.

Mix.

Dose, a tablespoonful three times a day.

Whaley's Dyspepsia Cure.

Nitric Acid, diluted,	80 drops.
Fluid Extract of Conium,	2 drachms.
Syrup of Orange Peel,	2 "
Fluid Extract of Rhei,	$\frac{1}{2}$ ounce.
Tincture of Colombo,	5 ounces.

Mix.

Dose, a teaspoonful in water, three times a day, before meals.

Langdon's Diarrhoea Mixture.

Tincture of Camphor,	3 drachms.
Tincture of Capsicum,	1 drachm.
Spirits of Lavender Compound,	2 drachms.
Tincture of Opium,	2 "

Mix.

Dose, twenty-five drops in a little sugared water, after each operation.

Rheumatism Application.

Oil of Hemlock,	2 ounces,
Oil of Horseradish,	2 "
Oil of Celery,	2 "
Oil of Penneroyal,	2 "
Oil of Sassafras,	2 "
Alcohol, to make	1 gallon.

Mix.

The above is a powerful external application in Sciatica, Rheumatism, Neuralgia, etc., and is the preparation sold by a party to physicians throughout the west.

MISCELLANEOUS.

Pain Expeller.

Tincture of Capsicum,	25 drachms.
Tincture of Camphor,	5 "
Aqua Ammonia,	10 "
Alcohol,	10 "
Opodeldoc.	10 "

Mix.

Erysipelas Wash.

Sugar of Lead,	2 drachms.
Plaster Paris,	2 "
Tincture of Opium,	2 ounces.
Tincture of Catechu,	2 "
Water,	12 "

Mix and apply.

Cod Liver Oil with Quinine.

Sulphate of Quinine,	60 grains.
Pure Oleic Acid,	1 ounce.
Cod Liver Oil,	31 fluid ounces.
Diluted Sulphuric Acid,	Q. S.
Distilled Water,	Q. S.
Ammonia,	Q. S.

Suspend the Quinine in four ounces of water, dissolve by the careful addition of Sulphuric Acid, and precipitate with Ammonia. Wash the precipitated alkaloid dry, and dissolve it in the Oleic Acid by the aid of a gentle heat. When solution is effected, add the Cod Liver Oil. The product should measure thirty-two fluid ounces, and contains two grains of the Oleate of Quinine in each fluid ounce.

Red Drops.

Tincture of Catechu,	5 ounces.
Tincture of Camphor,	1 ounce.
Dover's Solution,	2 ounces.

Mix.

For diarrhea and summer complaint.

ORDINARY DOSE—6 months old, 3 drops; 1 year old, 4 drops; 2 years old, 7 drops; 3 years old 9 drops; 5 years old, 13 drops; 7 years old, 20 drops; 14 years old 30 drops; adult, 40 drops. Repeat every 4 hours until relief is obtained.

Steam Tight Cement.

Asbestos Powder, made into a thick paste with Liquid Silicate of Soda, is used with great advantage for making joints, fitting taps and connecting pipes, filling cracks, etc. It hardens very quickly, stands any heat, and is steam-tight.

Eau de Cologne Soap.

From a German soap makers' journal we take the following recipe:

White Castile Soap,	2,000 parts.
Oil of Lemon,	8 "
Oil of Neroli,	4 "
Oil of Sweet Orange,	6 "
Oil of Rosemary,	1 part.
Oil of Thyme,	1 "
Oil of Petit grain,	2 parts.
Essence of Civet (13½ grains Civet to 1 ounce of Alcohol),	4 "

Catarrh Snuff.

Calomel,	1 drachm.
Camphor, pulverized,	1 "
Acacia,	2 drachms.

Poisonous Solutions for Dispensing.

Geo. W. Sloan reports that, from his own experience, "solutions of alkaloid salts made with *distilled* water, carefully filtered, kept in well-stoppered bottles in a *dark* closet of an equable temperature, do keep well for long periods." He appends a list of solutions which he keeps on hand in his own practice, viz. :

Article.	Solvent.	Amount.
Chloral Hydrate,	Water,	3 i. in fl. 3 i.
Corrosive Sublimate,	Alcohol,	gr. i. in fl. 3 i.
Zinc Chloride,	Water,	gr. ij in fl. 3 i.
Atropia Sulp.,	Water,	gr. i. in fl. 3 i.
Duboisin,	Water,	gr. i. in fl. 3 i.
Eserin Sulphate,	Water,	gr. i. in fl. 3 i.
Strychnia Sulph.,	{ Alcohol 1 } { Water 3 }	gr. i. in fl. 3 ij
Calcium Bromide	Water,	3 i. in fl. 3 i.
Zinc Bromide,	Water,	3 i. in fl. 3 i.

Toothache Jelly.

Carbolic Acid, crystalized,	$\frac{1}{2}$ ounce.
Collodion,	$\frac{1}{2}$ "

Melt the Carbolic Acid by placing bottle in hot water; then add the Collodion.

For use, place a little cotton or wool in the tooth, previously saturated in the Jelly, care being taken to prevent the cotton or wool coming in contact with the cheek.

Simmons' Liver Regulator.

(Said to be.)

Liverwort,	1 ounce.
Leptandra,	1 “
Serpentaria,	1 “
Senna,	1½ ounces.
Water,	2½ pints.
Whisky,	½ pint.

Bring the water to a boil, and pour over the drugs; let stand one day; strain and add the whisky.

Cuticura Resolvent.

(Said to be.)

Aloes Soc.,	1 drachm.
Rhubarb, Powdered,	1 “
Iodide Potass,	86 grains.
Whisky,	1 pint.

Macerate over night and filter.

Compound for Cleaning Gloves.

Eau de Javelle (solution of Chlorate of Soda),	8½ ounces.
Ammonia,	½ ounce.
Powdered Soap,	12½ ounces.
Water,	9½ “

Make a soft paste, and use with a flannel.

New Glove Cleanser.

Benzine, deodorized,	1 gallon.
Chloroform,	1 ounce.
Ether, Sulp.,	1 “
Alcohol,	2 ounces.
Oil of Cologne,	1 ounce.

Aromatic Cachous.**Take of:**

Extract of Licorice Root,	100 parts.
Dissolve in warm water,	100 "
Add Powdered Catechu,	30 "
Gum Arabic,	15 "

Evaporate in a warm bath to an extract, adding:

Cascarilla Bark,	2 parts.
Vegetable Charcoal,	2 "
Orris Root,	2 "
Mastic,	2 "

And when nearly cold add:

Peppermint Oil,	2 "
Tincture of Ambergris,	10 drops.
Tincture of Musk,	10 "

Cut the mass into pieces of a suitable size and shape.
 These will, of course, be black or dark-colored.

Lime Juice Cordial.

Glucose,	86 pounds.
Cane Sugar,	108 "
Water,	28 gallons.
Lime Juice,	17 "
Oil of Orange, } of each	4 drachms.
Oil of Nutmegs, }	
Salicylic Acid,	2 ounces.

Dissolve the Glucose and Cane Sugar in the Water;
 add to the solution the Lime Juice, the Essential Oils,
 and the Salicylic Acid. Mix well and strain.

Iodoformed Lint.

This may be prepared after Hager's directions for making "Iodoformed Charpie," and is preceded by the preparation of a solution of Iodoform, as follows :

Iodoform,	4 parts.
Ether,	20 "
Oil of Fennel,	1 part.
Dilute Alcohol,	40 parts.
Glycerine,	10 "

Dissolve the Iodoform in the Ether, previously mixed with the Oil of Fennel and Dilute Alcohol. Then add the Glycerine.

Take of

Lint,	10 parts.
Solution of Iodoform,	15 "

Incorporate the solution with the Lint, by triturating and kneading in a mortar.

Since Iodoform is volatile, even at ordinary temperature, it is not advisable to prepare Iodoform-dressings for stock, but only at the time when called for. It must be prepared distant from lights or fire; and when made should be left exposed to the air, picked apart, for about fifteen minutes, so that the Ether, etc., may evaporate.

Moth Solution.

Carbolic Acid,	1 ounce.
Gum Camphor,	1 "
Benzine, to make	1 pint.

Dissolve the Gum and Carbolic Acid in the Benzine. Apply by saturating a piece of blotting paper, or use it in form of spray, by use of an atomizer.

Cement.

(Said to be Stretina.)

White Glue,	1 pound.
Acetic Acid,	1½ pints.

Melt the Glue, and while warm, gradually add the Acid, stirring well.

Carbon Tracing Paper.

Melt six parts of Lard and one of Yellow Wax together, and triturate the melted mixture in a warmed mortar, with one part of fine Lampblack. The melted mixture must be added gradually, and the trituration be thorough. While still in a fluid condition, apply with a brush or otherwise, a thin coating to ordinary tracing paper, and wipe off any excess.

Self-Raising Flour.

Reduce separately, by grinding, to impalpable powders,

Bicarbonate of Soda,	1 pound.
Cream of Tartar,	2½ pounds.
Salt,	1½ "

These should be intimately mixed together, and then with 100 pounds of fine flour. All of the substances employed should be thoroughly dry.

Soda Water Foam.

Beat the whites of two eggs with twelve fluid ounces of water, and dissolve in the liquid two ounces of white sugar, and half a drachm of Salicylic Acid. Add one fluid ounce of this mixture to every pint of syrup.

To Preserve Flowers.

Dissolve by agitation and digestion, in a closely stoppered bottle, three-quarters of an ounce of clear, pale gum copal, coarsely powdered and mixed with equal weight of broken glass, in one pint of pure Sulphuric Ether (Ethylic Ether). Dip the Flowers in this liquid, remove quickly, expose to the air ten minutes, then dip again and expose as before. Repeat this dipping and drying four or five times. Most flowers thus treated will remain unaltered for some time if not handled.

Shoemaker's Ink—No. 1.

Extract of Logwood,	1 to 2 ounces.
Tincture of Iron,	1 to 2 “
Sweet Oil,	1 to 2 drachms.
Diluted Alcohol,	1 pint.

Shoemaker's Ink—No. 2.

Extract of Logwood,	4 ounces.
Bichromate of Potassa,	12 grains.
Yellow Prussiate of Potassa,	12 “
Rain Water,	1 gallon.

The ink is applied with a brush, and immediately burnished with a hot iron.

Eye Lotion.

Sulphate of Zinc,	2 grains.
Sulphate of Morphia,	1 grain.
Glycerine,	$\frac{1}{2}$ ounce.
Rose Water,	$1\frac{1}{2}$ ounces.

Mix.

Waterproof Branding Ink.

Shellac,	2 ounces.
Borax,	2 "
Water,	25 "
Gum Arabic,	2 "
Lampblack, sufficient.	

Boil the Borax and Shellac in water till they are dissolved, and withdraw from the fire. When the solution has become cold, complete twenty-five ounces with water, and add Lampblack enough to bring the preparation to a suitable consistence. When it is to be used with a stencil it must be made thicker than when it is to be applied with a marking brush. The above gives a black ink. For red ink, substitute Venetian Red for Lampblack; for blue, Ultramarine; and for green, a mixture of Ultramarine and Chrome Yellow.

Turpentine Varnish.

Clear, Pale Resin,	5 pounds.
Turpentine,	7 "
Dissolve.	

Liquid Starch Gloss.

Spermaceti,	2 ounces.
Gum Senegal,	2 "
Borax,	2 "
Glycerine,	5 "
Water,	49 "

Mix and boil together. Two or three teaspoonfuls to be added to a quarter of a pound of boiled Starch.

Lime-Juice and Glycerine.

The following formula is stated to be used in making this compound. You will find neither Lime-Juice nor Glycerine among the ingredients :

Almond Oil,	240 parts.
Olive Oil,	240 "
Lime-Water,	240 "
Sugar,	20 "
Oil of Lemon,	5 "
Oil of Lavender,	2 "

Washing Fluid.

Sal Soda,	1 pound.
Unslacked Lime,	$\frac{1}{2}$ "
Boiling Water,	6 quarts.

Dissolve the Unslacked Lime and Sal Soda in the water. Let the mixture stand till it settles, then pour off and bottle the clear liquid.

The above formula is said to be the best *Washing Fluid* known. A cup full of it put in a boiler of soap suds will thoroughly cleanse and bleach the clothes therein without rotting them.

Javelle Water.

Bi-Carbonate of Soda,	4 pounds.
Chloride of Lime,	1 pound.
Boiling Water,	1 gallon.

Put the Soda in water over the fire, and stir in the Chloride of Lime; let it boil fifteen minutes and remove it. After cooling, put in tightly corked jugs or bottles.

Culinary Essences.

G. S. Illingworth gives the following composition of satisfactory kitchen essences :

Name.	Made From.	Parts.
Almond or Ratafia, Oil,		1 to 10 Alcohol.
Cayenne,	Powdered pods, fresh,	1 to 8 "
Celery,	Seeds, bruised,	1 to 3 "
Cinnamon,	Oil,	1 to 5 "
Cloves,	Oil,	1 to 3 "
Lemon,	{ Lemon peel, $\frac{3}{4}$ xx, } Essential oil, $\frac{3}{4}$ xvi,	$\frac{1}{2}$ gall. "
Mace,	Powder,	1 to 4 "
Nutmeg,	Nut, bruised,	1 to 4 "
Orange,	Peel,	1 to 2 "
Pimento,	Oil,	1 to 4 "
Rose,	Essence,	1 to 40 "
Sandal Wood,	Essence, (Absolute)—	1 to 12 "
Vanilla,	Pods,	1 to 20 "
Verbena,	Essence,	1 $\frac{1}{2}$ to 20 "

Lightning Renovator.

Castile Soap (cut fine)	4 ounces.
Hot Water,	1 quart.

When the Soap is dissolved, add

Water,	4 quarts.
Aqua Ammonia,	4 ounces.
Sulphuric Ether,	1 ounce.
Glycerine,	1 "
Alcohol,	1 "

Mix.

An excellent preparation for removing grease, etc.

Soft Soap.

(For House Cleaning, Washing Clothes, etc.)

Hard Soap,	3 pounds.
Sal Soda,	1 pound.
Aqua Ammonia,	1 ounce.
Spirits of Turpentine,	1 “
Soft Water,	3 gallons.

Boil the water, and in it dissolve the Soap and Soda; take off the fire, and stir in the other ingredients.

Diamond Cement.

White Glue,	1 pound.
White Lead,	$\frac{1}{4}$ “
Soft Water,	1 quart.
Alcohol,	$\frac{1}{2}$ pint.

Melt the Glue in the Water in a water bath; then add the White Lead, and lastly the Alcohol, stirring well.

Knowing that many druggists, in connection with other goods, carry a line of jewelry, and having so many requests for formula, I append a few of known worth and which I know can be of use and should be known by every druggist.

Jewelers' Turkish Cement.

Put into a bottle 2 ounces of Isinglass and 1 ounce best Gum Arabic. Cover them with Proof Spirit; cork loosely, and place the bottle in a vessel of water; then boil it till a thorough solution is effected; then strain for use.

Reviver of Old Jewelry.

Dissolve Sal Ammoniac in urine, making strong solution, and put the jewelry in it for a short time; then take it out, and dry in saw-dust, and finish with chamois leather.

To Remove Tarnish of Plated Silver-Ware.

Take of Cyanide of Potassium 3 ounces; dissolve in 2 gallons of Soft Water. [The amount may be varied to suit the case.] Have article clean and free from grease; dip in solution till tarnish is off, but no longer (and under no circumstance leave it in too long). After immersion the article must be taken out and *thouroughly* rinsed in a number of waters, warm perferred, then dried with soft rag or saw-dust.

The above is the formula used by the leading jewelers in the country.

To Renew Old Plated or Brass Chains.

Sulphuric Acid,	2 $\frac{1}{4}$ ounces.
Nitric Acid,	2 “
Rain Water,	2 “
Nitrate of Potass.,	1 drachm.

Mix in a glass bottle, with caution, and let stand for a few hours.

Apply by dipping the article into the solution quickly, and then at once wash off thoroughly and rinse in clean rain water and dry in saw-dust.

This will remove stains, and gives the article a bright and new appearance.

Silver Plating Fluid.

Dissolve 1 ounce Nitrate of Silver (crystal) in 12 ounces of Soft Water; then dissolve in the water 2 ounces Cyanide of Potassium; shake the whole together, and let stand till it becomes clear. Have ready some vials of the size wanted [$\frac{1}{2}$ ounce makes a good size] and fill half full of Paris White or fine Whiting, and then fill up the bottles with the liquor, and it is ready for use. Thoroughly cleanse the article from all grease and dirt and apply with soft rag or flannel; polish with chamois skin.

Quinquinia.

(Modes of Administration.)

For a solution, use twice the quantity of Acid [Diluted Sulphuric Muriatic, Nitric, or a solution of Citric or Tartaric] which would be required for an equal amount of Sulphate of Quinine. The increase of acid is accounted for by the fact that Quinquinia consists of pure alkaloïds only, while one equivalent of acid already exists in Sulph. of Quinine.

For Elixirs of Cinchonia Bark it possesses special advantages, as it mixes with Iron solutions without coloration or precipitation. This is owing to the absence of Tannic or Cincho-Tannic Acid, which always accompanies the direct use of Cinchonia Bark. I give two formulas—one for Elixirs and one for Pills.

Pills of Quinquinia.

Use simply dilute Sulphuric, or a solution of Tartaric Acid. It will make an excellent pill mass; but care must be taken to avoid any excess of acid.

Seltzer Aperient.

Rochelle Salts,	39 ounces.
Bicarbonate Soda,	20 “
Tartaric Acid,	13 “
Sulphate Magnesia,	11 “

Dry each separately at a heat not to exceed 120° Fahrenheit; powder and pass through a sieve. Mix thoroughly and bottle.

Red Wash.

Sugar of Lead,	1 drachm.
Sulph. of Zinc,	3 drachms.
Fluid Ext. of Rhatany,	4 “
Fluid Ext. of Hydrastis,	4 ounces.
Fluid Ext. Gold Thread,	4 “
Aq. Ext. of Opium,	6 drachms.
Water to make	2 pints.

Sig.—Inject three times a day.

Sandal Wood Emulsion.

Oil Sandal Wood,	5 drachms.
Copaiba Balsam,	25 “
Gum Tragacanth, pulv.,	3 “
Gum Acacia, pulv.,	2 “
Sugar,	13 “
Oil Wintergreen,	2 “
Aqua, q. s., to make	37½ ounces.

Mix. Teaspoonful three times a day,

The above gives one drop of the Oil of Sandal Wood, and five drops of the Balsam of Copaiba in each teaspoonful.

Granulated Citrate of Magnesia.

Acid Citric, powdered,	4 pounds.
Magnesia Calcined,	1½ “
Soda Bi-Carb.,	3 “
Acid Tart.,	3 “
Pulv. Sacc. Alb.,	6 “
Ol. Lemons,	½ drachm.
Alcohol,	q. s.

To the powdered Citric Acid add the Sugar and mix thoroughly, then add the Soda, Magnesia and Tartaric Acid; pass the whole through a No. 4 sieve to insure it being thoroughly mixed; moisten the powder with strong Alcohol, and pass through a No. 8 sieve, and place it on wooden tray in a warm room to dry; then add the Oil of Lemon and bottle instantly. It usually takes twenty-four hours and a temperature of 120° Fr. to dry the Salt perfectly. This preparation requires careful and skilful manipulation to ensure good results.

Artificial Friedrichshall Water.

The following formula is said to give a very close approximation to the natural bitter water of Friedrichshall:

Soda Bi-Carb.,	7⁄8 ounce.
Soda Sulph, Cryst.,	1½ ounces.
Potas. Sulph.,	3⁄8 ounce.
Mag. Sulph., Cryst.,	20 ounces.
Sodium Chlor., pure,	10½ “
Calcium Chlor., anhydrous,	1 ounce.
Distilled Water,	q. s.

Mix the Bi-Carb. and Sulphate of Soda with the Sulphate of Potash by rubbing them together in a mortar;

add the Sulphate of Magnesia, and dissolve in three pints of Water. Then add the other salts with sufficient water to form a solution. Pour the liquid into a fountain containing twelve gallons of water, and charge moderately with Carbolic Acid Gas. It is then ready for bottling.

Artificial Carlsbad Salt.

Chloride of Sodium,	1 ounce.
Bicarbonate of Soda,	3 ounces.
Sulphate of Soda, exsiccated,	10 “
Mix.	

Let the Chloride of Sodium be perfectly dry and powdered. Mix thoroughly, and keep in a well closed bottle.

A New Gleet Specific.

Petroleum Crude (mass)	1 ounce.
Water,	1 “
Tincture Nux Vomica,	10 drops.

Mix in mortar. To use: Warm the mixture and shake well. Use from one to two teaspoonfuls as an injection upon going to bed.

The Petroleum mentioned is not the ordinary black Petroleum, but the one so generally coming into use for throat and lung troubles, and is designated as Crude Petroleum Mass.

PART V.

MISCELLANEOUS.

Oleic Acid.

Oil Amygdal dulce,	$\frac{1}{2}$ gallon.
Potass Hydrate,	9 ounces.
Acid Hydrochloric,	10 “
Water,	Q. S.

Dissolve the Alkali in half a gallon of water, add the oil and stir till the soap becomes thick and white, then heat and add the Acid. Heat till the Oleic Acid rises to the top. Wash, heat again, and filter through freize.

Choppart's Balsamic Mixture.

[German.]

Sweet Spirits Nitre,	1 drachm.
Balsam Coapaiba,	8 drachms.
Alcohol,	8 “
Spear-mint Water,	8 “
Orange-flower Water,	8 “
Syrup of Orange-peel,	8 “

Mix. Dose—one teaspoonful.

Buckler's Croup Mixture.

Tartar Emetic,	2 grains.
Pulv. Ipecac,	40 “
Syrup of Squills,	2 fl. ounces.

Mix. Teaspoonful every ten minutes until it operates.

To Deodorize Alcohol.

Alcohol,	1 gallon.
Unslacked Lime,	4 drachms.
Powdered Alum,	2 “
Sweet Spts. Nitre,	1 “

First reduce the Lime to a very fine powder, add to it the Alum, mix the two powders well together and pour them into the Alcohol. Shake well, add the Sweet Nitre and shake again. After the mixture has been kept a week, with occasional agitation, filter it through animal charcoal, when a pure Deodorized Alcohol will be produced.

Purgative Powder.

Extract of Jalap, Powdered,	24 parts.
Bitartrate of Potassium,	24 “
Resin of Podophyllum,	1 part.
Ginger, Powdered,	12 parts.
Cinnamon, Powdered,	12 “
Nutmegs, Powdered,	3 “
Sugar of Milk, Powdered,	48 “
Sugar, Powdered,	96 “

Triturate the Resin of Podophyllum with the Sugar of Milk for fifteen minutes; then add the other ingredients and mix thoroughly. Keep the mixture in well-corked bottles. Dose, one teaspoonful.

Crotonized Ether.

Croton Oil,	1 fl. drachm.
Ether,	1 fl. ounce.

Mix. Dose, 20 drops in an ounce of cold water, with a little sugar, to be repeated in an hour, if necessary. Recommended as a remedy for habitual costiveness.

Flour Paste.

Flour,	4 ounces.
Water,	1 pint.
Nitric Acid,	40 minims.
Oil of Cloves,	5 “
Carbolic Acid,	5 “

Thoroughly mix the flour and water, strain through a sieve, add the Nitric Acid, apply heat until thoroughly cooked, and when nearly cold, add the Oil of Cloves and Carbolic Acid.

(This makes an excellent paste for all pharmaceutical uses. The addition of about 5 per cent. of glycerin is of advantage in places where the atmosphere is usually dry, to prevent the Paste from drying up in the pot).—E. W. BUNYON.

Citrate of Magnesia.**[Acid Solution.]**

Citric Acid,	9 ounces.
Carbonate Magnesia,	3 ounces 7 dr. and 15 grains.
Aqua Q. S. to make,	48 ounces,
Dissolve Acid and Magnesia in the water and filter.	

[Alkaline Solution.]

Magnesia Carbonate,	1½ ounces.
Sugar,	15 “
Tinct. Ginger,	75 drops.
Oil Orange,	8 “
Aqua Q. S. to make,	48 ounces.

Mix thoroughly and strain, keep each Solution in separate bottles and when wanted for use take four ounces of each solution and put in a citrate bottle and then fill the bottle up with water. Cork and tie down. It will become clear in a few minutes if shaken occasionally.

This formula has the advantage of being put up fresh each day without going to the usual trouble.

Hungarian Stick Cement.

Gum Shellac,	1 pound.
Burgundy Pitch,	1 ounce.
Salt,	$\frac{1}{2}$ pint.
Water,	4 quarts.

Put water on stove, heat to the boiling point, put in the ingredients, and when melted pull into small rolls as you would molasses candy. For white, use White Shellac. This cement is an excellent one for leather or wood, by dissolving in Alcohol. When the Cement is desired black, Asphaltum Pitch can be used instead of the Burgundy Pitch. The above is one of the best and strongest Cements known. For use, warm the edges of the parts to be united, also warm the Cement, and apply; hold in position till cold, which will be but a few moments,

Pulverized Phosphorus.

Phosphorus cut in pieces, Q. S.

Drop the Phosphorus into a flask half filled with a solution of Chloride of Sodium. Warm the mixture until the Phosphorus melts. Then shake it until the liquid becomes cold. Pour off the solution of salt and wash the powdered Phosphorus thoroughly with water.

Note—It should be preserved under water.

Compound Tinct. Aloes, for Galls, Etc., on Horses.

Pulverized Aloes,	3 ounces.
“ Catechu,	2 “
Alcohol,	1 pint.

Mix and macerate for fourteen days, and filter. Apply two or three times a day.

Aromatic Chalk Powder.

Cinnamon in powder,	4	ounces.
Nutmeg,	8	"
Saffron,	8	"
Cloves,	1½	"
Cardamoms,	1	ounce.
Sugar,	25	ounces.
Prepared Chalk,	11	"

Mix them thoroughly, pass the powder through a fine sieve, and finally rub it lightly in a mortar. Keep it in a stoppered bottle.

Dose—10 to 60 grains.

Dyspepsia Tablets.

Lacto-phosphate Lime,	1½	drachms.
“ “ Magnesia,	10	grains.
“ “ Iron,	5	"
Pepsin,	100	"
Sub Carb Bismuth,	100	"
Oil Mentha Pip,	5	drops.

Make into 100 compressed pills.

To prevent rusting of compressed pill moulds: After using, wash thoroughly with water, and dry by passing cotton through the cylinder, then fill the cylinder with absorbent cotton, and wrap it and the base and plunger with the same material and put away.

Oil Cantharides or Horse Blister.

Pulv. Cantharides,	1	ounce.
Linseed Oil,	7	ounces.

Mix and let stand for two weeks.

Ely's Cream Balm.

This is a proprietary article, largely advertised in the eastern States, and meets with rapid sales, and is used for catarrh.

The directions are to dip the little finger into the Balm and insert up the nostrils, giving two or three full inhalations. It is as follows:

Vaseline,	1 ounce.
Thymol,	8 grains.
Carb Bismuth,	15 "
Oil Wintergreen,	2 m.

Improved form of Emulsion.

Take a perfectly dry bottle, put in powdered Gum Aca-
cia, add the oils and shake well, afterwards add your
water gradually and continue to shake till a perfect
emulsion is formed.

This emulsion will hold in suspension for a consider-
able time.

Every druggist knows that after using Balsam of Ca-
pabia etc., in making an emulsion in a mortar, entails
considerable labor. The above method saves much labor
of washing mortars etc.

Tincture of Kino that will not gelatinize.

Kino in fine powder,	1½ ounces.
Alcohol,	8 fl. "
Water,	4 " "
Glycerine,	4 " "

Mix the Alcohol, water and Glycerine together, and
having mixed the Kino with an equal bulk of sand, intro-
duce it into a glass percolater and exhaust it with the
menstruum in the usual manner.

Salmon's drops of life.

Tinct. of Castor,	8 fl. ounces.	
Tinct. Opium,	3 "	
Saffron,	4 drachms.	
Cochineral,	} of each	2 "
Camphor,		
Nutmegs,		
Antimonial Wine,	} of each	1 pint.
Water,		

Digest for ten days and filter. Dose, twenty to sixty drops.

Chamberlains Relief.

Tinct. of Capsicum,	1 fl. ounce.
Spirits of Camphor,	6 drachms.
Tinct. of Guaiac,	1 ounce.
Alcohol,	1 "

Mix well.

Improved Preston Salts.

Oil of Lemon,	1 drachm.
" Lavender,	$\frac{1}{2}$ "
" Cloves,	5 drops.
Strong Ammonia,	15 ounces.

Fill the smelling bottles with crystallized Sulphate of Potassa, and pour into each bottle as much of the Aromatic Ammonia as the Salt can retain without spilling. This makes a much better looking Salt than the Carbonate of Ammonia, and as it does not cake together like it, the bottle need not be emptied when the Ammonia has evaporated. All that is necessary is to fill it up again with the Aromatic Ammonia. The mixture is also more pungent, and its flavor appears to be more generally acceptable to the majority of customers.

Powder for Chafe.

Pulverized Starch,	2 ounces.
“ Camphor,	3 drachms.
“ Oxide of Zinc,	1 ounce.

Reduce the Camphor to powder by use of Alcohol or Sulphuric Ether, then thoroughly incorporate with the other ingredients.

This powder is one of the best known for Chafe etc., in use. Dust very lightly upon the parts.

Glue which stands moisture without softening.

Dissolve in about eight fluid ounces of strong methylated spirit half an ounce of Sandarac and Mastic, next add half an ounce of Turpentine. This solution is then added to a hot, thick solution of Glue to which isinglass has been added and is next filtered while hot through cloth or a good sieve.

Ink Powder.

We have been frequently asked to give a formula for Ink Powder, here is a good one.

Nut Galls,	1 pound.
Copperas,	7 ounces.
Gum Arabic,	7 “

Pulverize and mix.

If two are or three cloves should be mixed with each pound of powder it will prevent moulding.

Blue Ointment.

[Quick method.]

The addition of a small quantity of Balsam of Capabia to the Quick-silver in making Blue Ointment will render the process an easy one.

Syrup for Consumption, Coughs, Colds, Etc.

Hops,	1 ounce.
Hoarhound,	1 "
Wild Cherry Bark,	1 "
Iceland Moss,	1 "

Mix the above, then pour on two quarts boiling water, and simmer to one quart, after which add four ounces pure Pine Tar. Stir till cold or nearly so, keeping as much of the Tar in solution as can be done, then add one pound of good Loaf Sugar or Rock Candy, and one-half a pint of pure Jamaca Rum (or a known good spirit, but the Rum preferred.

The above is the formula of the Brompton Hospital, of London, and cannot, we think, be improved upon, as a good reliable remedy for coughs, colds, etc., or as an expectorant.

Medicated Lye.

Hickory Ashes,	8 ounces.
Soot (from Wood),	1 ounce.
Water,	1 gallon.

Rub Soot with Ashes till thoroughly mixed, add water, shake, let stand twenty-four hours, then filter. The above has been highly recommended in dyspepsia, in doses from one-half to a wine glass full after meals.

Improved Sticky Fly Paper.

Lard Oil,	4 ounces.
Rosin,	1 pound.

Boil together, spread thinly on Manila paper, place another sheet on top, press together, when wanted tear them apart and it is ready for use.

Universal Liniment.

Camphor,		1 part.
Oil of Origanum,	} each	2 parts.
“ Tar,		
“ Seneka,		
Carbolic Acid,	} each	12 parts.
Lard Oil,		
Oil Turpentine		
Light Petroleum Oil,		16 parts.

Useful in sprains, bruises, scalds, chilblains and will be found a good cheap liniment.

Label Varnish.

An excellent Varnish which dries in a few seconds and produces a colorless, smooth and shining coat is prepared from the following:

Sandarac,	53 parts.
Mastic,	20 “
Camphor,	1 part.
Oil of Lavender,	8 parts.
Venice Turpentine,	4 “
Ether,	6 “
Alcohol,	40 “

The ingredients must be macerated for weeks until everything is dissolved.

It is therefore advisable to prepare a sufficient quantity to last for some time, at once.

New Stamping Powder.

Rosin (light),	8 ounces.
Gum Demar,	2 “

Use Prussian Blue, Carmine, or dry White Lead for color.

Pulverize fine and sift before adding color.

For Chapped Hands.**First make a jelly of**

Quince Seed,	2 drachms.
Water,	2 pints.

Boil down to one pint and filter, and let cool, after which use in the following proportion.

Quince Seed Jelly,	8 ounces.
Glycerine,	4 “
Bay Rum,	4 “
Perfume,	Q. S.

Oil for Sewing Machines.

Vaseline,	1 ounce.
Paraffin Oil,	7 ounces.

Melt Vaseline and add Paraffin Oil. Cool thoroughly and allow the cloudiness which takes place to clear off by depositing. Decant and use the clear oil.

Copal Varnish.

Take pale hard Copal,	2 pounds.
Boiled Linseed Oil,	1 pint.
Spirits of Turpentine about,	3 pints.

Fuse the Copal, add the oil hot, with constant stirring, then withdraw from the fire and add gradually the Turpentine previously warmed.

Vinegar Furniture Polish.

Pure Cider Vinegar,	2 gallons.
Linseed Oil,	1 gallon.
Butter of Antimony,	1 pound.
Aqua Ammonia,	8 ounces.
Spirits of Camphor,	4 “
Alcohol,	2 pints.

Mix and shake well before using.

Russian Liquid Glue.

This is prepared by softening 100 parts of the best Russian Glue in 100 parts of warm water and then adding slowly from five and one-half to six parts of Aqua fortis and finally six parts powdered Sulphate of Lead. The latter is used in order to impart to it a white color.

Silver Marking-Ink.

Professor Redwood's formula, has never been much improved on. It is as follows:

Silver Nitrate,	1 ounce.
Sodium Carbonate, (crystalized)	1½ ounces.
Tartaric Acid,	160 grains.
Strong Liquor Ammonia	2 ounces.
Archil,	½ ounce.
White Sugar,	½ “
Powdered Gum Arabic,	1½ “
Distilled Water,	Q. S.

Dissolve the Silver Nitrate and Sodium Carbonate separately in distilled water; mix the solutions; collect and wash the precipitate very thoroughly on a filter; careless washing will leave Sodium Nitrate in the Ink, which will destroy the fabric like tinder when the Ink-marks are heated. Introduce the well-washed precipitate, still moist, into a wedgwood mortar, and add to it the Tartaric Acid, rubbing them together until effervescence has ceased; add Liquor Ammonia in sufficient quantity to dissolve the Silver Tartrate; then mix in the Archil, White Sugar and Powdered Gum Arabic, and add Distilled Water, if required, to make six ounces of the mixture. The Sugar makes the Ink flow better from the pen, counteracting the effect of the Gum added to suspend the Silver Salt.

To prevent Fats and Oils from becoming Rancid.

Heat the oil or melted fat for a few minutes with powdered slippery elm bark, in the proportion of one drachm of the powder to one pound of fat.

To purify and sweeten Castor oil. *The American Journal of Pharmacy* gives the following for this purpose :

Take 1,000 parts of the oil, 25 parts of purified bone black, and 10 parts of calcined Magnesia. Mix them carefully in a convenient vessel of glass or tinned iron and let it stand during three days with occasional agitation, and filter through paper or felt.

To keep Oil of Lemon Fragrant.

To every pound of oil one ounce of Alcohol is to be added and well mixed ; then one ounce of water is put with it, which again draws the Alcohol from the oil and collects at the bottom of the bottle as diluted Alcohol, where it should be permitted to remain until the oil has been used, with perhaps an occasional shake up when the bottle has been opened.

Oil of lemon treated in this way has been kept fresh and fragrant for over a year. Oil of orange may be treated in the same manner with excellent effect.

Ready Reference Table for Shade of Mixing Paint.

Buff.....	Mix together—	White, Yellow Ochre, Red.
Chestnut	"	Red, Black, Yellow.
Chocolate	"	Raw Umber, Red, Black.
Claret	"	Red, Umber, Black.
Copper.....	"	Red, Yellow, Black.
Dove.....	"	White, Vermilion, Blue, Yellow.
Drab.....	"	White, Yellow Ochre, Red, Black.
Fawn.....	"	Red, White, Yellow, Red.
Flesh	"	White, Yellow Ochre, Vermilion.
Freestone	"	Red, Black, Yellow Ochre, Vermilion.
French Gray.....	"	White, Prussian Blue, Lake.
Gray.....	"	White Lead, Black.
Gold	"	White, Stone Ochre, Red.
Green Bronze.....	"	Chrome Green, Black, Yellow.
Lemon.....	"	White, Chrome Yellow.
Limestone	"	White, Yellow Ochre, Black, Red.
Olive	"	Yellow, Blue, Black, White.
Orange	"	Yellow and Red.
Peach	"	White and Vermilion.
Pearl	"	White, Black, Blue.
Purple	"	Violet, with more Red and White.
Rose.....	"	White, Madder Lake
Sandstone	"	White, Yellow Ochre, Black, Red.
Snuff	"	Yellow, Vandyke Brown.
Violet	"	Red, Blue and White.

PART VI.

MISCELLANEOUS.

To Produce Cold, Artificially.—WALKER.

Ingredients.		Thermometer Sinks.	Degrees of cold Produced.
1	{ Snow or pounded ice, 2 Parts. Chloride of Sodium, 1	to—5°
2	{ Snow or pounded ice, 5 Chloride of Sodium, 2 Sal Ammoniac, 1	—12°
3	{ Snow or pounded ice, 12 Chloride of Sodium, 5 Nitrate of Ammonia, 5	—25°
4	{ Snow, 8 Hydrochloric acid cent, 5	From +32° to —27°	59°
5	{ Snow, 2 Crystallized Chloride of calcium, 3	From +32 to —50°	82°
6	{ Sal Ammoniac, 5 Nitrate of Potassa, 5 Water, 16	From +50 to +10°	40°
7	{ Nitrate of Ammonia, 1 Water, 1	From +50° to +4°	46°
8	{ Carbonate of Soda, 1 Water, 1	From +50° to 7°	57°
9	{ Phosphate of Soda, 9 Nitrate of Ammonia, 6 Dilute Nitrous Acid, 4	From +50° to 21°	71°
10	{ Sulphate of Soda, 8 Hydrochloric Acid, 5	From +50 to 0°	50°
11	{ Snow, 3 Dilute Nitrous Acid, 2	From 0° to 40°	46°
12	{ Snow, 2 Sulphuric Acid, 1 Water, 1	From 20 to —60°	40°
13	{ Snow, 1 Crystallized Chloride of Calcium, 3	From 0° to —66°	66°
14	{ Snow, 1 Crystallized Chloride of Calcium, 3	From —40° to —73°	33°
15	{ Snow, 8 Sulphuric Acid, 5 Water, 5	From —68 to —91°	23°

The materials in the first column are to be cooled previously to mixing, to the temperature required in second, by the use of other mixtures.

In the production of ice or an extreme degree of cold, by saline mixtures, the salts should be in the crystallised state, and as rich as possible in water, but without being in the least damp. They should also be coarsely pulverized at the time of using them, and should not be mixed until immediately before throwing them into the liquid ingredients. The mixture should be made in a thick vessel, well clothed, to prevent the accession of external heat; and the substance to be acted on should be contained in a very thin vessel, so as to expose it more fully to the action of the mixture. On the large scale, a vessel called a "FREEZING POT" or "sabotière" is commonly employed. The above table, though founded on experiments made more than 50 years ago by Mr. Walker, gives full and accurate information on the subject of freezing mixtures.

To Find the Temperature at Which Petroleum Gives off Inflammable Vapor.

The vessel which is to hold the oil, shall be of thin sheet-iron; it shall be two inches deep, and two inches wide at the opening, tapering slightly toward the bottom; it shall have a flat rim, with a raised edge, one quarter of an inch round the top; it shall be supported by this rim in a tin vessel four inches and one-half deep, and four and one-half in diameter; it shall, also, have a thin wire stretched across the opening, which wire shall be so fixed to the edge of the vessel that it shall be a quarter of an inch above the surface of the flat rim. The thermometer to be used shall have a round bulb about half an inch in diameter, and is to be graduated upon the scale of Fah-

renheit, every ten degress occupying less than half an inch upon the scale. The inner vessel shall be filled with the petroleum to be tested, but care must be taken that the liquid does not cover the flat rim. The outer vessel shall be filled with cold, or nearly cold, water; a small flame shall be applied to the bottom of the outer vessel, and the thermometer shall be inserted into the oil so that the bulb shall be immersed about $1\frac{1}{2}$ inches beneath the surface. A screen of pasteboard or wood shall be placed round the apparatus, and shall be of such dimensions as to surround it about two-thirds, and to reach several inches above the level of the vessels. When heat has been applied to the water until the thermometer has risen to about 90° Fahr. a very small flame shall be quickly passed across the surface of the oil on a level with the wire. If no pale blue flicker or flash is produced, the application of the flame is to be repeated for every rise of two or three degrees in the thermometer. When the flashing point has been noted, the test shall be repeated with a fresh sample of the oil, using cold, or nearly cold, water as before, withdrawing the source of heat from the outer vessel when the temperature approaches that noted in the first experiment, and applying the flame test at every rise of two degrees in the thermometer.

How to Make Pepsin.

Pepsin is a peculiar principle found in the gastric juice, and which in conjunction with hydrochloric acid, also present in the stomach, confers upon it the power of digesting certain portions of the food, and of dissolving, as Tuson has shown, calomel and other mineral substances.

Take the mucous membrane of a perfectly fresh pig's stomach, dissected from the muscular coat, and placed on a flat board. It is then lightly cleansed with a sponge

and a little water, and much of the mucous remains of food, &c., carefully removed. With the back of a knife, or with an ivory paper knife, the surface is scraped very hard, in order that the glands may be squeezed and their contents pressed out. The viscid mucous thus obtained contains the pure gastric juice, with much epithelium from the glands, and surface of the mucous membrane. It is to be spread out upon a piece of glass so as to form a very thin layer, which is to be dried at a temperature of 100°, over hot water, or in vacuo over sulphuric acid. Care must be taken that the temperature does not rise much above 100° Fahr., because the action of the solvent would be completely destroyed. When dry, the mucous is scraped from the glass, powdered in a mortar and transferred to a well-stoppered bottle. With this powder a good digestive fluid may be made as follows:

Of the powder,	5 grains.
Strong hydrochloric acid,	18 drops.
Water,	6 ounces.

Macerate it at a temperature of 100° for an hour. The mixture may be filtered easily, and forms a perfectly clear solution.

NOTE.—See Elixir of *Pepsin*.

Meat Preserving.

(Liebig's Extract of Meat.)

The largest establishment in the world for the manufacture of Liebig's extract of meat, is at Fray Bentos, in Uruguay, South America. The building covers an area of 20,000 square feet, and is roofed in iron and glass. There are four powerful meat cutters, each machine can cut the meat of 200 bullocks per hour. The meat being cut is passed to digerators, made of wrought iron, each one

holding about 12,000 pounds of beef. There are 12 of these digerators. Here the meat is digerated by high pressure steam, of 75 pounds per square inch; from this the liquid which contains the extract and the fat of the meat proceeds in tubes to a range of *fat separators*. The fat is now quickly separated from the extract, as no time can be lost for cooling, otherwise decomposition would set in in a very short time. It next passes to five immense cast-iron clarifiers, 1,000 gallons each. During the course of clarifying the albumen fibrin and phosphates are separated. It is next raised, by means of air-pumps, to two vessels about 22 feet above the clarifiers; then the liquid runs to the other large evaporators, where the extract is evaporated at a very low degree of temperature, by four vacuum apparatus. The liquid is passed on into ready-making pans, constructed of steel-plates, with a system of steel discs revolving in the liquid to cool it quickly. It is next passed on to cast-iron tanks, provided with hot water baths under their bottoms. In these tanks the extract is thrown in quantities of 10,000 pounds at once, and here decrystallizing, is made a homogeneous mass and of uniform quantity. It next passes through the hands of the analytical chemist, and so is finished.

Eighty oxen are butchered at this establishment per hour; each ox is cut into six pieces, and 150 men engaged in dressing the meat.

To Purify Glycerine.

All men are not honest, and wholesale and retail drug men have been known to attach a label to the bottle containing glycerine with the words *Pure Glycerine*, when it is not pure. Some samples being rich in lead, others contain chlorine, most are diluted with water, and the best is generally acid. It is necessary, therefore to purify even

the best samples, by digesting them for several days with powdered chalk, allowing the latter to subside, and decanting.

Pure glycerine is a colorless, odorless, uncrystallizable liquid, sweet to the taste, and of a syrupy consistence; it mixes with water, in all proportions; it is unctuous and emollient, and softens bodies like oil, but without greasing them; it does not evaporate or change in the air at ordinary temperature, and is not susceptible of rancidity or spontaneous fermentation.

To Detect Copper in Pickles and Green Tea.

Put a few leaves of the tea or some of the pickles, cut small, into a phial, with two or three drachms of liquid ammonia, diluted with one-half of the quantity of water. Shake the phial; when, if the most minute portion of copper be present, the liquid will assume a fine blue color. Or immerse a polished knife blade—the copper will deposit upon it.

FOR IRON.

Infusion of galls gives a bluish black, and ferro-cyanide of potassium a blue precipitate.

FOR LEAD.

Sulphate of Ammonia gives a black precipitate, chromate of potassa and Iodide of potassium, yellow.

To Make Carbonic Acid.

Pure muriatic acid upon fragments of chalk or marble. The gas being heavy, may be collected without the use of water, by simply allowing the delivery tube to pass to the bottom of the receiving vessel.

To Make Chlorine.

Heat gently a mixture of muriatic acid and black oxide of maganese. It may be collected like carbonic acid. Care must be taken not to inhale it.

To Make Sulphuric Acid.

To 12 ounces of sulphurous acid, in glass retort, add two ounces of sulphur, and apply a gentle heat. This is a cheap and easy process.

To Make Laughing Gas.

Heat gently in a flash or retort, nitrate of ammonia, (made by adding carbonate of ammonia to nitric acid until no more gas comes off.) It should be allowed to stand some time over water before being breathed.

To Make Oxygen.

Heat in a retort, flask, or test-tube, finely-powdered chlorate of potash, mixed with about one-fourth its weight of black oxide of maganese.

The gas must be collected by attaching a tube to the flask, the end of which dips under water; a jar full of water being inverted over the ends of the delivering tube.

To Make Hydrogen.

Act on zinc scraps with diluted sulphuric acid, say one part of acid to ten of water. A common bottle, with a perforated cork, fitted with a glass tube, or bit of pipe-stem, and another bottle to collect the gas, are all the apparatus required. In collecting the gas, the tube must reach quite to the top of the collecting vessel. Care must be taken that all the air has been driven out of each vessel before a light is applied, or an explosion will ensue.

M. Yvon on the Purity of Chloroform.

M. Yvon has suggested a new and delicate method of testing the purity of chloroform for anæsthetic purposes. At a meeting of the Paris Société de Pharmacie he read a paper upon this subject, which has been published in the *Journal de Pharmacie et de Chimie*, a résumé of which is given in the *Pharmaceutical Journal* (pp. 711, 12), and may be consulted with advantage. We transcribe the following as containing the proposed mode of testing, which would appear worthy of attention :

Referring to the characteristics requisite for chloroform that is to be used for anæsthetic purposes, as described by Professor Regnault,—viz., that it should have a mild odor, be neutral to test paper, give no precipitate when shaken with solution of argentic nitrate, not acquire a brown color when heated to the boiling point with caustic potash, not blacken when mixed with concentrated sulphuric acid, nor dissolve or consequently become colored by certain aniline derivatives such as rosaniline or aniline blue—M. Yvon is of opinion that these characters do not constitute a sufficient guarantee of purity, unless the boiling point of the liquid has previously been found correct. That he considers to be an absolute necessity, having examined many samples which were not quite pure, although they bore the tests above mentioned. In seeking for further tests of purity, M. Yvon first tried the determination of the boiling point, and by that means was able to classify the samples operated upon under two heads. The first commenced to distil about 59.4°C ., the temperature rising gradually to 60.4° , 61.2° , and 63.4° by the time three-fourths had passed over, and then rising to 64.4° and even 65.5° . The samples of the second class began to distil at 61° , and nearly eight-tenths passed over at that temperature, after which the temperature rose up to 66° .

Making due allowance for the difficulty of obtaining absolutely precise results by this means, M. Yvon, nevertheless, felt justified in concluding that the samples examined by him contained substances rather more volatile, and others less volatile than chloroform, without, however, affecting the reactions which are accepted as characteristics of the purity of chloroform.

After some further trials of a mixture of bichromate of potash and sulphuric acid M. Yvon finally decided to employ permanganate of potash, as he found that salt was not reduced by pure chloroform. He first used an aqueous solution containing .025 per cent. of the salt, shaking half a cubic centimetre with 5 cub. cent. of the chloroform to be tested, and found that the greater the impurity of the sample the more rapid was the reduction of the permanganate. Subsequently a greater sensibility was given to the permanganate, by applying it in the presence of a free alkali. A solution containing 1 part permanganate with 10 parts caustic potash in 250 parts of water has a fine violet color, which is instantly changed to green by contact with impure chloroform. In testing a great number of samples of chloroform from various sources, M. Yvon did not find any that were free from impurity. With ordinary commercial chloroform the passage from violet to green was almost instantaneous; with chloroform described as pure it took place within ten or fifteen seconds, and with anæsthetic chloroform within from thirty to fifty seconds.

Anæsthesia.

Commenting on the danger of using pure chloroform for anæsthetic purposes, Dr. Henry Smith says, in the *Lancet*: "During the last five years, both in private and

hospital practice, the anæsthetic employed in my operations consists either of ether alone, or of a mixture composed of one part alcohol, two of chloroform, and three of ether. This mixture is comparatively harmless, and will produce the same amount of insensibility as is effected by more dangerous anæsthetics."

Spiritus Melissæ Compositus.

This is the Eau (de Melisse) des Carmes of the German Pharmacopœia :

Balm leaves,	70 parts.
Lemon peel,	60 "
Coriander,	30 "
Nutmeg,	30 "
Cinnamon,	15 "
Cloves,	15 "
Alcohol,	750 "
Water,	1,250 "

Pulverize the solids, mix them with alcohol and water and distil off 1000 parts.

Artificial Lemonade.

Loaf sugar,	2 pounds.
Tartaric acid,	$\frac{1}{2}$ ounce.
Essence of almonds,	20 drops.
Hot water,	2 pints.

Dissolve the tartaric acid in the hot water, add the sugar, and lastly the lemon and almonds. Stir well; cover with a cloth, and leave until cold. Two table-spoonfuls to a tumblerful of cold water will make an excellent drink, more refreshing, indeed, say those who have tried it, than either ginger beer or ordinary lemonade.

Glycerole of Belladonna.

Extract of Belladonna,	1 ounce.
Glycerole of Starch,	10 ounces.

Rub together until perfectly smooth. Glycerole of hemlock, henbane and opium are ordered by the Paris Codex to be prepared in the same manner.

Glycerole of Borax.

Borax,	1 part.
Glycerine,	4½ parts.
Mix.	

Glycerole of Gallic Acid.

Take Gallic Acid,	1 part.
Glycerine,	4½ parts.

Glycerole of Iodine.

Iodide of Potassium,	1 part.
Iodine,	1 part.
Dissolve in their own weight of water and add	
Glycerine,	40 parts.
Mix.	
Apply in skin diseases.	

Gilding Oil.

This species of gilding may be divided into several operations. The following are the instructions of a Prussian artist on the subject :

1. The surface is prepared by a coating of white lead in drying oil.
2. Another coat is given, made with calcined white lead or massicot, ground in linseed oil and turpentine. Three or four coats of this mixture are often given at in-

tervals of at least 23 hours, observing to carefully smooth off each coat with pumice stone or shave grass before the application of the following ones :

3. The gold color or paint is next applied. It is usually very adhesive gold-size, or the bottom of the pot or dish in which painters wash their brushes. For this purpose it is thoroughly ground and strained.

4. When the gold color becomes partially dry and sufficiently tenacious, the gold leaf is applied and pressed on with a wad of cotton-wool, or a soft brush. It is now left for several days to harden.

5. A coat of spirit varnish is next given, and the object is cautiously passed over a chafing-dish of charcoal, observing to avoid stopping the motion of the piece whilst doing so, as the work would then become discolored and blistered.

6. The work is "finished off" with pale oil varnish.

For out-door gilding and common work the varnishing process is geneally omitted. This species of gilding is applied to wood-work, plaster, metal, etc.

How Gelatin is Procured.

Crushed bones are boiled with water or by the action of steam and water successively for about 15 minutes, the fat is skinned from the top. The bones are next crushed and boiled in 8 to 10 times their weight of water, of which that already used must form a part, until evaporated to one-half, when a very nutritious jelly is observed. A little carbonate of soda is usually added to the last water.

To Remove Ink from Paper.

Wash alternately, with a camel's hair brush, dipped in a solution of Oxalic Acid and Cyanide of Potassium.

To Purify Putrid Water—No. 1.

Water,	1 pound,
Sulphuric Acid,	8 drops.

Mix and filter through charcoal.

No. 2.

Water,	8 gallons.
Powdered Alum,	1 ounce.

Dissolve with agitation, then allow to rest 24 hours; decant into another vessel, and add a solution of carbonate of soda, until it ceases to produce a precipitate.

To Remove the Burnt Smell from Distilled Waters.
Expose them to a temperature lower than 32° Fahr.

American Green Wax (Imitation.)

Verdigris,	1 ounce,
Beeswax,	2 pounds.
Sonorous Stearine,	5 pounds.

Apply heat till of a proper color.

Liquid Asphaltum.

Asphaltum,	4 parts.
Gum Turpentine,	1 part.

Melt, then add:

Spirits of Turpentine,	7 parts.
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Assafoetida Plaster.

Diachylon,	2 pounds.
Assafoetida,	2 pounds.
Galbanum,	1 pound.
Yellow wax,	1 pound.

Mix.

Useful as an application to the abdomen in hysteria, flatulency, etc.

Water-proof Varnish for Boots.

Linseed Oil,	8 parts.
Boiled Oil,	10 “
Suet,	8 “
Beeswax,	8 “

Mix with heat, and apply hot.

Wright's Pearl Ointment.

White Precipitate,	8 ounces.
Goulard's Extract,	1 pint.
White Wax,	7 pounds.
Olive Oil,	10 “

Rub the Goulard's Extract and the White Precipitate to a cream, then add the White Wax and Olive Oil, previously melted together by a gentle heat. Stir till the ointment is nearly cold.

Young's Aperient Drink.

Carbonate of Soda (Crystals),	2½ drachms.
Bitartrate of Potassa, (Crystals),	3 “
Cold Water,	8 ounces.

Throw the Carbonate of Soda and the Potassa into a soda water bottle containing the water, cork and keep it inverted till used.

Goadsby's Solution.

(For ordinary use in preserving specimens.)

Alum,	1 ounce.
Bay Salt,	2 ounces.
Corrosive Sublimate,	1 grain.
Water,	1 pint.

In very tender tissues, or where there is a tendency to mouldiness, use 2 grains of Corrosive Sublimate.

Burnett's Solution

Is made by adding Scrap Zinc to Muriatic Acid so long as any gas (hydrogen) is evolved.

It is largely used in the preservation of timber and in embalming of dead bodies by throwing it into the aorta.

Frank's Solution of Copaiba.

Copaiba,	1½ pounds
Magnesia,	12 ounces.
Alcohol,	1 quart.
Nitrous Ether,	2 ounces.

Triturate together the Copaiba and Magnesia, then add the Alcohol, filter, and lastly add the Nitrous Ether.

Average Quantity of Tannin in Several Substances.

Catechu,	55 per cent.
“ Bengal,	44 “
Kino,	75 “
Nutgalls,	65 “
Chesnut,	8 “
Sassafras root bark,	58 “
Sumac Sicily,	16 “
“ Virginia,	10 “
Willow inner bark,	16 “
Sycamore bark,	16 “
Tan Shrub,	13 “
Cherry Tree,	24 “
Alder bark,	36 “

Ridgewood's Disinfectant.

In 100 parts, use of Carbolic Acid 5 to 8 per cent., lime from Magnesia Limestone 5 per cent., Fuller's Earth 70 to 80 per cent., with a little Sulphate of Potash and Sulphate of Soda.

Fish Oil for Painting.

Fish Oil,	100 gallons
Ground Latharge,	12 pounds.
Sulphate of Zinc,	2 pounds.
Boil together for two hours, when cool add—	
Soap,	8 pounds.
Water,	1 gallon.
Boiled Oil,	8 gallons.
Turpentine,	2 “
Mix well.	

Almond Meal.

The following formula is recommended for this useful cosmetic :

Almond Meal, in fine powder, prepared from blanched Bitter Almonds, after the oil has been extracted,	6 ounces.
Orris root, in fine powder,	4 “
Wheat Flour,	4 “
White Castile Soap, in fine powder,	1 ounce.
Borax, in fine powder,	1 “
Oil of Bitter Almonds,	10 drops.
Oil of Bergamot,	2 drachms.
Tincture of Musk,	1 drachm.

Mix thoroughly, and pass the mixture through a fine sieve.

Gilbert's Syrup.

Biniodide of Mercury,	15 grains.
Iodide of Potassium,	12½ drachms.
Simple Syrup,	75 Troy ounces.

Mouth Washes.

The following are well recommended :

VIOLET MOUTH WASH.

Tincture of Orris,	$\frac{1}{2}$ pint.
Oil of Rose (3 oz. to 1 gall.)	60 drops.
Oil of Bitter Almonds,	5 "
Alcohol,	1 pint.

EAU BOTOT.

Tincture of Myrrh	$\frac{1}{2}$ pint.
" Krameria,	$\frac{1}{2}$ "
" Cedar Wood, (1 : 5)	1 "
Oil of Rose,	10 drops.
" Peppermint,	15 "

BOTANIC STYPTIC.

Myrrh,	2 ounces.
Krameria,	2 "
Cloves,	2 "
Alcohol, (50 per cent.)	2 pints.

Macerate 14 days, and strain.

TINCTURE OF MYRRH AND BORAX.

Borax,	1 ounce.
Honey,	1 "
Myrrh,	1 "
Red Saunders,	1 "
Alcohol, (50 per cent.)	2 pints.

Triturate the Honey and Borax together in a mortar, then gradually add the Alcohol, the Myrrh and Red Saunders, and macerate for 14 days.

Mrs. Allen's Hair Restorer.

Marret, in the Journal d'Anvers, gives the following formula :

Sulph. precip.,	26 grains.
Pulv Cassiæ,.	8 “
Glycerine,	1½ oz. by w'ght.
Plumb acet. cryst.,	41 grains.
Aqua distill.,	2½ ounces.

Aromatized with a perfume containing Nitrobenzol. The Sugar of Lead and the Sulphur are first rubbed together, then the Cassia, and the Water and the Glycerine.

Kummerfeld's Lotion.

This is intended as an emollient application to the skin, particularly of the face. Its composition is the following :

Sublimed Sulphur,	2 parts
Glycerin,	2 “

Triturate them together until they are thoroughly mixed, then add—

Glycerin,	10 parts.
Spirit of Camphor, (1 : 10)	4 “
Spirit of Lavender,	10 “
Cologne,	10 “
Distilled Water,	120 “

When wanted for use, it should be well shaken up.

Pancoast's Soap Styptic.

Castile Soap,	1 drachm.
Bicarbonate of Potassa,	2 drachms.
Alcohol (diluted),	8 ounces.

Mix.

Ferrated Cod-Liver Oil.

Sulph. of Iron (precipitated by Alcohol),	2 parts.
Solution of Soda, sp. gr. 1.18,	9½ “
Water,	10 “
Cod-Liver Oil,	100 “

Add the Soda Solution to the Cod-Liver Oil, mix them intimately, warm the mixture on a water-bath (original does not state the exact temperature), and then add the Sulphate of Iron, dissolved in ten parts of water. Now pass a brisk current of air for some time through the mixture, which will cause the temperature to rise to 85°-90° C. Keep up the current of air and the same temperature continuously until the compound is formed, during which time the mixture will foam considerably, for which reason the vessel containing it should only be half filled. The time required for finishing the preparation depends partly upon the quantity of air, partly upon the bulk of the oil.

During the process, the Iron is first converted into Hydrated Ferrous Oxide, which is changed into Ferric Oxide by the oxygen of the air. The Ferric Oxide, in statu nascente, combines with the fatty acids to a soluble salt. The other step of the process, namely, the decomposition, of the Cod-Liver oil, goes hand and hand with the former, one being dependant upon the latter. In this manner, a preparation is obtained which becomes perfectly clear on standing, has a dark garnet-red and contains about 0.25 per cent. of Iron. It cannot be said to have an agreeable odor or taste, which appears to be the more disagreeable the lower the percentage of Iron. A more palatable mixture is obtained by adding two parts of pure Cod-Liver oil to three parts of the Ferrated. The resulting mixture contains, then, about 0.15 per cent. Iron, which quantity is satisfactory to most physicians.

A Brilliant Purple for Show Bottles.

Sulphate of Copper,	2 drachms.
Water,	2 ounces.
French Gelatine,	1 drachm.
Boiling Water,	2 ounces.
Solution of Potassa,	2 pints.

Dissolve the Copper Salt in the water, and the Gelatine in the boiling water. Mix the two solutions and add the liquor of potassa. Shake the mixture a few times during ten hours, after which decant and dilute with water.—

Silvering Glass.
SOLUTION I.

Nitrate of Silver,	1 ounce.
Water,	10 ounces.

SOLUTION II.

Caustic Potass.,	1 ounce.
Water.	10 ounces.

SOLUTION III.

Glucose,	$\frac{1}{2}$ ounce.
Water,	10 ounces.

The above quantities are those estimated for 250 square inches of surface. Add Ammonia to solution No. 1 till the turbidity first produced is just cleared. Now add solution No. 2 and again Ammonia to clear, then a little solution, drop by drop, till the appearance is decidedly turbid again. Then add No. 3 solution and apply to the clear glass surface.

Cobb's Pills.

(Said to be.)

Ext. of Hyoscyamus,	80 grains.
Ext. of Conium,	30 "
Ext. of Colocynth,	40 "
Ext. of Nux Vomica,	4 "
Mix. Divide into 80 pills.	

Mistura Apii Composita.

At a recent pharmaceutical meeting of the Philadelphia College of Pharmacy, Prof. Maisch communicated a formula, obtained from Dr. W. A. Hammond, for the above mixture. It is made as follows:

Fluid Ext. of Coca,	2 ounces.
Fluid Ext. of Viburnum,	1 ounce.
Fluid Ext. of Opium Graveolens,	1 “

It is an excellent nerve sedative and tonic. Dose, 1 to 2 teaspoonfulls three times a day.

To Make Soluble Glass.

Water glass is best prepared by melting together, in a crucible, powdered quartz, or quartz sand and carbonate of soda. Usually a small quantity of charcoal is introduced, but if the materials used are free from metallic oxides and compounds this is unnecessary.

Fine infusorial earth is nearly pure silica, and makes excellent water glass. Where quartz or sand is employed, it is reduced by grinding together with the calcined soda to a powder, the whole of which will pass through an 80-mesh wire gauze sieve.

The following are the usual proportions in which the materials are mixed:

1.—Clear Quartz,	45 pounds.
Carbonate of Soda, calcined,	23 “
Charcoal,	8 “
2.—Quartz sand,	100 pounds.
Calcined Soda,	48 “
Charcoal,	5 “
3.—Quartz sand, purified,	65 pounds.
Anhydrous Carbonate of Soda,	34 “
Powdered Charcoal,	4 “

The ingredients, thoroughly mixed, are put into clay pots and gradually heated to bright redness; Carbonic Acid and Carbonic Oxide escape, and the mass gradually becomes liquefied. When effervescence ceases and fusion is complete, the contents of the pots are poured out on clean stone slabs to cool. When made of good materials and properly fused, the glass closely resembles ordinary flint glass.

Cold water scarcely dissolves it at all, but if broken into small pieces and boiled in soft water it gradually dissolves. If the boiling is continued some time, and a sufficient quantity of glass is added, a clear syrupy liquid or a nearly colorless jelly, according to circumstances, is obtained. These solutions may be diluted with hot water.

The solution containing about 30 per cent. of the glass is in greatest demand. It is quoted at 50 cents per gallon, put up in barrels or kegs.

A New Artificial Ivory said to be Fireproof.

First a solution is made of 200 parts of Casein in 50 of Ammonia and 400 of water, or 150 parts of albumen in 400 of water. To the solution the following are added:

Quicklime,	240 parts.
Acetate of alumina,	150 "
Alum,	50 "
Sulphate of Lime,	1,200 "
Oil,	100 "

The oil is to be mixed in the last. When dark objects are to be made, from 75 to 100 parts of Tannin are substituted for the Acetate of Alumina. When the mixture has been well kneaded together, and made into a smooth paste, it is passed through rollers to form plates of the desired shape. These are dried and pressed into metallic

moulds previously heated; or they may be reduced to a evry fine powder which is introduced into heated moulds and submitted to strong pressure. The objects are afterwards dipped into the following bath:

Water,	100 parts.
White Glue,	1 part.
Phosphoric Acid,	10 parts.

Finally they are dried, polished and varnished with Shellac.

Instantaneous Silvering Mixture.

To coat copper or brass objects with silver, without difficulty or loss of time, the following process is given in *Gewerbs-Blatt f. Ostr. u. West-Preussen*, 1880, 110:

Mix 3 parts of Chloride of Silver with 20 parts of powdered Cream of Tartar and 15 parts of powdered common Salt. Moisten a suitable quantity of the mixture with water and rub it with a piece of blotting paper upon the metallic object, which must be thoroughly clean. The latter is afterwards rubbed with a piece of cotton upon which precipitated Chalk is dusted, then washed with water, and polished with a dry cloth.

Salicylic Acid in the Foot-and-Mouth Disease of Cattle.

The Duke of Brunswick has of late successfully combated the ravages of this much dreaded enemy on his estate at Stampen, near Oels, in Prussian Silesia, by treatment with Salicylic Acid, the well-known antiseptic. Instead of several weeks being required to effect a cure with the remedies hitherto employed, truly surprising results have been brought about within a few days by this new treatment. A solution of the Acid is prepared by pouring some hot water on about three tablespoonfuls

of Salicylic Acid in an earthen vessel, and adding lukewarm water to make up a gallon. The mouth and feet of the diseased animal should be carefully washed three times a day with this liquid, and the tops of the hoofs well powdered with the dry acid after each ablution. The effect will, moreover, be greatly increased by salicylating the drinking water of the beasts by the addition of two tablespoonfuls of the Acid dissolved in hot water. During the above treatment, great attention must be paid to the perfect cleanliness of the stables or sheds. The dung must be saturated with Salicylic solution to prevent further infection, for it is chiefly in the dung that the germs of the disease are to be found.

Disguising the taste of Chloral.

The taste of Chloral may, it is said, be disguised effectually by administering it in Syrup of Gooseberries, adding a drop of Chloroform for each grain of Chloral.

Chloral Hydrate in Chronic Bronchitis.

A solution of 10 grains of Chloral Hydrate in one ounce of water is strongly recommended as a cure for Chronic Bronchitis in elderly persons. It is used of this strength as an inhalation through a steam atomizer morning and evening, and is said to afford immediate relief.

Oleomargarine.

This is an artificial butter made from the fat of animals, usually beef cattle. The Oleomargarine having been extracted from the suet is poured into a churn with about an equal quantity of fresh milk and as much water. A little coloring matter is then added, and a little water, in which pieces of cow's udder and milk glands have been

soaked, and the whole churned. The mixture yields a sweet, palatable butter, which is salted as usual. As nothing unwholesome is used in the manufacture of this butter, its use in place of real butter is a mere matter of taste. It can be made at from one-fifth to one-third the cost of real butter, and does not readily become ranced. It is being largely manufactured. If the law compelled the manufacturers to label and sell it as Oleomargarine, it would be all right, but many attempt to pass it off upon customers as real butter, and this is where the wrong comes in.

A Good Drier for Paint.

A good drier for paint is obtained as follows :

Dry Sulphate of Zinc,	15 pounds.
Sugar of Lead,	4 "
Litharge,	7 "
Linseed Oil, sufficient.	

Mix thoroughly, and pass three or four times through a paint mill. It must be kept in air-tight vessels.

A Menstruum for Salicylic Acid.

In the *Louisville Medical News*, Dr. Springer states that Salicylic Acid is readily soluble in effervescing Vichy or Seltzer Water, the former, from containing an excess of Alkaline Carbonates, being preferable. The acid is put into a tumbler first and mixed thoroughly with a small quantity of water, to prevent its floating, and the glass is then filled with the effervescing water, and the liquor drunk off. When perfectly dissolved, it is said to have a very pleasant, exhilarating, pungent, and sweetish taste.

To Bleach Sponges. No. 2.

Wash in hot, diluted Soda Lye; then immerse in dilute Muriatic Acid, 1 part to 10 of water, until all gritty particles are removed, and no more gas arises; then immerse in a second bath of dilute Muriatic Acid, containing 3 per cent. Hyposulphite of Soda.

Excellent Liquid Glue.

Best White Glue,	16 ounces.
White Lead Dry,	4 “
Rain Water,	2 pints.
Alcohol,	4 ounces.

With constant stirring, dissolve the Glue and Lead in the water by means of a water bath. Add the Alcohol and continue the heat for a few minutes. Lastly, pour into bottles while it is still hot. This is said to be superior to Spaulding's Liquid Glue.

Condy's Solution.

A saturated Solution of Permanganate of Potassa is one of the most efficient and elegant of all disinfectants. A teaspoonful in a soup-plate of water, exposed in a room, quickly removes any offensive smell; when the pink color disappears, more must be added. It has been used to remove the smell of Bilge-Water and Guano from ships.

It speedily cleanses foul water and makes it drinkable. A teaspoonful to a hogshead is generally enough, but more may be added until the water retains a slight pinkish tint. This will disappear by putting a stick into the water for a few minutes.

Meerschaum.

The word in the German means sea foam, and the material was so named because of its lightness and whitish appearance. It is a mineral of soft earthy texture, somewhat resembling Chalk. It is found in Greece and Turkey, as well as in Spain, occurring in the form of veins and otherwise. In Turkey it is used extensively as fuller's earth. The custom is to roughly shape into blocks or rude forms of pipes for exportation. Pesth and Vienna are famous cities for the manufacture of Meerschaum pipes, and at Geneva quite a number of the elegant smokers are to be seen. The manufacture of the spurious article is extensive, Paris leading lately in the newer imitations. To produce the yellow and brown colors, so much admired in the real Meerschaum pipe, and which come only after they are smoked some time, the blocks are long kept in a mixture of wax and fatty matter. These are in part absorbed, and afterward, being acted on by the heat from the tobacco, the Meerschaum assumes various shades of colors. What are known as artificial Meerschaums—made from the parings of the genuine material, reduced to fine powder, boiled in water and molded into blocks—cannot easily be distinguished from the real, but they are generally heavier and more free from blemishes.

To Disguise the Taste of Tincture of Iron.

Dr. Hagar recommends that Tincture Ferri Chloridi be mixed with simple syrup and then with milk. This mixture will not affect the teeth nor will the styptic taste be apparent.

Elastic Glue.

Good, common Glue is dissolved in water in the water-bath, and the water evaporated down to a mass of thick consistence, to which a quantity of Glycerine, equal in weight with the Glue, is added, after which the heating is continued until all the water has been driven off, when the mass is poured out into moulds, or on a marble slab.

This mixture answers for stamps, printers' rolls, galvanoplastic copies, etc.

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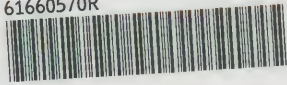






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